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Dinosaurographies
The Public Politics of Monstrous Fascination

by
BRIAN E. NOBLE

©

A THESIS SUBMITTED TO THE FACULTY OF
GRADUATE STUDIES AND RESEARCH IN PARTIAL
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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled *Dinosaurographies: The Public Politics of Monstrous Fascination* by Brian Noble in partial fulfillment of the requirements for the degree of Master of Arts.

Milton R. Freeman

Milton R. Freeman, Ph.D. Supervisor

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Abstract

Dinosaurs as contemporary publicly/scientisitically written and visualized beings are considered as effective monstrosities—that is, as Latour (1993) might suggest, they are nature/culture hybrids, beasts that occupy and constitute discursive boundaries between constructed imaginings such as self and other, known and unknown, reality and fantasy, and multiplicities of animal, human, and other material forms. The blurred, hybrid character of dinosaurs attracts fascination and the thesis locates fascination in such boundary sites, offering an accounting for massive subject/public attention paid to dinosaur productions. Using wide-ranging sources in the spirit of contemporary cultural studies, the thesis considers predominantly literary-visual figurations from narrative projections, gendered tropologies, and the constructed and reified situating of dinosaurs in chaotic and savage lost worlds entailed simultaneously within controlled utopian theme park worlds and museums. Two massively popular productions are selected and reviewed to frame contingent histories of 'dinosaurographical' imagining—specifically the 1854 Richard Owen and Benjamin Waterhouse Hawkins constructed dinosaur worlds of London's Crystal Palace Park and the 1993 techno-generated dinosaur world of Stephen Spielberg's *Jurassic Park*.

The degree of consistency, given what would otherwise be seen as contrasting colonial and post-colonial contexts of the two projects, suggests that the dominating narratives of nature/culture, gender and racial oppression, and monster commodification/purification, are really only slightly altered in the 140 year time span which their public deployments frame. At the same time, the generation of hybrid knowledge formations and related subject participation/fascination is, in the 1990s, presenting itself as an increasingly accessible and potent site for anti-racial, anti-sexist, anti-domination discourse.

A critique of the politics of predominantly masculinist narratization, and capitalist commodification of dinosaurs as monsters and techno-illusionary public attractions is presented, suggesting that the ongoing transformative 'trickster' character of dinosaurs may qualify them as future sites for popular subject-agent engagement. As with Haraway's cyborg discourses (1989, 1991) dinosaurographies have potential to shift mutably with counter-narrations offered by those heretofore marginalized from the discourses of privileged scientistic/public culture formations.

Acknowledgements

A life in dialogue with so many accounts for the authorship of this thesis—it is a production of many, not one. It's strengths, such as they may be, are more the result of the many, its weaknesses rather are sourced in the one.

My academic supervisor, Milton Freeman in his unusual and exceeding respect for the sometime madness of errant idea-maker/destroyers, provided the ultimate treasure of space and undying encouragement to move in whatever direction the work might lead. Constance MacIntosh, who knows so well the potency of boundary beasts, brought that potent magic to me throughout the work of writing. Inspiring and restorative discussions with Carol Murray, Eric Higgs, Linda Fedigan, and committee members Jean Debernardi and Nasrin Rahimieh gave me the much-needed sense of security to carry through with this experiment in the strange and familiar. Philip Currie of the Royal Tyrrell Museum of Palaeontology deserves special thanks for his enduring friendship and his ability to marvel at counter-science interpretations of dinosaurs as fantastic beings, to relish the notion that with monsters, anything goes. Bill Sarjeant of the University of Saskatchewan opened his extraordinary library and heart to me, expanding literary possibilities to the point of bursting. My gratitude to all the graduate students in the anthropology department for fellowship and mutual support while carrying out this project and giving a sense of being part of a community. To Murielle Nagy, all thanks for responding so givingly to my incessant pleas for laser printing.

For sixteen years of experience in the terrain of dinosaur monstrosity, I need no less than sixteen years of thank you's to all who have shared their knowing and playing with me—though most are missed here in name, you are not missed in spirit. Finally and especially to Marna, my dear partner and supporter in living and working over all those 16 years, your being courses through these lands and waters of words. I cannot thank you enough.

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Introduction

Dinosaurographies and Beastly Fascination

Dinosaur Park, 1978

I awoke early, 4:30 a.m., both so that I could begin my search with the first light of dawn, and also to give me time before my daily park naturalist duties began at 8:00 a.m.. Though we had many fossil carnosaur teeth in the small park collection of dinosaur fossils, I had never found one myself. Other naturalists who had worked in the park longer than myself could with some puzzling sense of pride, display a recurved, serrated tooth they had stumbled upon in their wanderings or which they had discovered during some serious and pointed prospecting through the bizarre badland country of Dinosaur Provincial Park — arguably the richest dinosaur fossil locality in the world.

Carnosaur teeth are special. They are blade-like, elegant and dangerous-looking. They are also the largest teeth found in Dinosaur Park, with crowns of up to 5 inches in length. Science, museums, and television talking heads tell us that the creature that bore these teeth were either *Albertosaurus* or *Daspletosaurus*, two smaller predecessors of *Tyrannosaurus rex*. the giant carnivore best known, perhaps along with sharks, for its menacing grin of teeth. Although I had found teeth of many herbivores, some small carnivores — *Troödon* and *Dromaeosaurus* — and a few crocodile and shark teeth, the big carnosaur teeth had eluded me somehow.

My march across the dissected terrain, head turned downward, eyes scanning the eroded sandstone and bentonitic surfaces ahead of my step, followed an imagined bird's eye diagonal from one corner to the opposite corner of the Little Sandhill Creek badlands. I knew I could make the walk one-way in about an hour and a half, leaving time for my return by 8:00 a.m.. I had walked this general part of the park in the past, but never following this specific path, and never with such a mission in mind. Of course, the diagonal was only an idealized notion—I had to maneuver up and down rilled hillsides, divert around sage and greasewood-tangled gullies, double back out of box coulees — but the general momentum was in an

> envisioned straight line toward an unseen but wished-for destination: the enamel surface of a "fossil" tooth, emerging from the sandstone, glinting in the sunlight as visibly as in the artificially-illuminated mandibles I had seen in a display case at the Provincial Museum in Edmonton. Apparently the enamel is original, 'real', unlike the permineralized 'bones' found scattered across the park which are merely natural facsimiles of the original bone.
>
> More than an hour had passed, and I was beginning to despair that I would find no tooth, as usual. I knew that the badlands turned upward ahead of me, the slopes rising to meet the sea of grass covering the flatlands beyond. Then, as I was about to turn back, I saw it. Smooth as polished glass, a couple of metres ahead of my step, only slightly exposed, was a dark, cocoa-brown surface, buried otherwise by deposited pediment sands — about one by two millimetres of exposed enamel . I removed the loosely covering sands with my pocket knife to find that it was complete — a near perfect *Albertosaurus* tooth, probably shed as the creature had gnawed 76 million years before on the carcass of some then-recently killed dinosaurian contemporary. The serrations were fine and perfectly preserved, except on the dorsal surface near the tip, which bore elegant surficial wear marks — signs of the monster's feeding activities. I wrapped the gift carefully in my handkerchief, placed it gently in my pocket, and turned around for the walk back to the campground. Eager park visitors would be gathering there, awaiting my arrival to lead them on a hike into the buttes and coulees, in search of similarly wished for but unforeseen wonders.

What fascinates us most? — that which is fascinating. Dinosaurs fascinate. Born in the early post-Enlightenment decades in Europe, "dinosaurs" are less than 200 years old, exemplars of a predominantly modern discourse[1]. As such, their invention, transformations, and culturally-embedded deployments in popular and scientific life course like a braided river through territories of modern European and North American cultural histories.[2] Dinosaurs have drawn intense attention in public spheres over that history. Or have they been *made* to draw this attention?

---

[1] I use the term "dinosaurs" throughout these essays as a highly variable cultural category. In these uses, "dinosaur" can act as name for the Western-science constructed animal group, or equally as publicly/privately imagined entity.

Hundred's of million's of people around the world carry with them some vision of dinosaurs. Knowledge of the dinosaurian image and character flows from many sources — film, television, scientific enquiry, theological teachings, museums, fossil parks, schooling, popular literature, from the voices of children, from consumer products, from personal experience, from the continual transformations of imagery and idea through discourse. Palaeontologists have told us that dinosaurs lived and are no more. More recently some have told us that dinosaurs live still, in the form of birds – but it is the dinosaurs of the imagination that seem to defy all forms of extinction. Indeed, they are flourishing.

Dinosaurs are written and visualized—they are graphic phenomena in this sense. The ongoing production, reproduction, and transformation of dinosaurs in public and science discursive domains is a highly blended project for which I invent a new term "Dinosaurographies". Dinosaurographies are plural, with writers and readers all contributing intertextually in the resulting knowledges, practices, material expressions, and embodiments. "Dinosaurography" gestures to "biography" in that dinosaur generation creates embodiments with life histories, and they are created by agents who have their own embodied histories that co-extend into the dinosaur embodiments. It also gestures to "geography" and "topography" as dinosaurs can be seen as natural/cultural maps of their embedded practices and knowledges that produce them.

---

[2] Japan, China, South America and a few other nations/regions have had knowledge traditions incorporating dinosaurs or dinosaur-equivalent forms, but the dominant trajectory in the manufacturing of dinosaur discourses is the European and North American stream, and in particular, the British and American traditions. See Chapters Two, Three, and Four for further descriptions.

The texts that follow are both a manifest dinosaurography, a re-writing of dinosaurs, and also a discussion of multiple dinosaurographies witnessed by this writer. My central project in this dinosaurography is to consider the natural/cultural dynamics and socio-historical embeddedness of dinosaur fascination. The most recurrent issue is that of *where dinosaur fascination is located* in subjective experience, and the implications and appropriations of knowledge production in those locations.

About These Essays

The critical literature on dinosaurs as public-scientific phenomena is very limited (cf.: Haste 1993; Desmond 1982, 1979a, 1979b, 1976; Gould 1993, 1992, 1991; Rudwick 1992; Clemens 1986). Given the massive popularization of dinosaurs, this may come as a surprise — are dinosaurs overlooked as "child's play", a not-so-serious discourse domain? Perhaps, yet dinosaurs have become a prominent "way-in" to science for so many children growing up in western trans-national cultural traditions, and especially in those that are predominantly English language traditions. They are an important specimen/artifact of popular experience.

The following essays are about this predominantly anglo cultural formation, and present a descriptive interpretation of selected phenomena associated with public/scientific imagining and fascination related to dinosaurs. To some degree, I am attempting to present an inaugurating text that suggests a conceptual history of dinosaurs in the Anglo-American context. Though much of what I present is drawn from historical cases, I stand those historical events/productions against contemporary events/productions, and my interest is decidedly in the contemporary. So, for the purposes of these essays, I use the term "contemporary" in two relative senses. The broader temporal sense is that of the approximately 140 year history of dinosaur presentation since their initial public disclosure.

The narrower sense is the ever-unfolding moments of the present. This is a view that sees the present as a blended consequence of synchronic situationalities, and diachronics of power and influence that have preceded the current presentations in some pervasive and topically relevant manner.

Over these pages, I attend to some examples that have come to stand as key markers in the histories of presentation, markers that have in their own right been drawn upon again and again as principle sources of narrative and social expression to be reified in some manner throughout this history. In a practical sense, these markers have obtained essentially "mythic" or "myth-like" status. These expressions resonate with the times of their invention and popularization and are infused with the ideational and ideological content of their times. By paying attention to these markers, I hope to provide some well-focused description of the dominant informing 'moments' in the history. I do this not to suggest the correctness of those moments and their productions, but to bring attention to those expressions that have by contingent and social means come to dominate trajectories of public and scientific conceptualizing of dinosaurs.

These are selected moments/events/productions that have had high potency in informing both public and scientific imagining of dinosaurs. My interest, at this juncture, is primarily public imagining, while recognizing that scientific imagining is both a crucial informant of these public productions (e.g. Crystal Palace Park, Ch. 2 & 3; *Jurassic Park*: Ch. 4) and also a 'sub-set' of public imagining—science is a pointedly privileged field of public discourse. The visions and texts I have selected for my investigations are those that are super-popularized (i.e. distributed or exposed extensively) and which claim some measure of scientific 'authorization' or endorsement in the course of their production. I am seeking to suggest some of the transformations having occurred during dinosaur presentation, and to situate that presentation in the broader socio-economic contexts of the associated times and geographies.

The essays are also prepared as an initial statement suggestive of a global socio-historical formation, in advance of commencing subsequent intensive localized studies in Canada and Japan. Those future studies will look at contemporary audience engagements (see my second sense of "contemporary" above) with dinosaur-related public productions/reproductions. That contrasts with this current, limited and selective overview of *key* productions[3] which presents that which is 'communicated to' the public (J.Stewart 1991). In the terms of the rather inadequate communications and exchange visions as "sender-receiver" or "producer-consumer" models, this study moves moreso to that domain associated with the "sender" and "producer" side of these contingent equations, while future work will gravitate to that domain associated with "receiver" and "consumer".

While I admit to a "sweeping" view in this presentation, I also admit a conviction that it is important (or inescapable?) to try and understand such wider contexts given a commitment to the situating of local expressions in global terms. The works swing or "zoom" from macro- to micro-views, from local to global, from personal to impersonal. It is a choice which, I am convinced, has as much validity as one which chooses to isolate detailed events at the expense of some fuller sense of situationality, or one which loses sight of local relevance in order to present meta-narratives.

---

[3] The idea of 'key' productions is intended much the same way as Raymond Williams's (1985) or Evelyn Fox Keller's (1992) "Key Words" are intended—particular cultural-linguistic inventions that have been reproduced and redeployed extensively. While they identify words as keys, I have chosen such figurations including narratives, visual treatments, which can stand as extended metaphors or keys)

In contemplating a narrative approach for offering a sweeping discussion of the widest stream of dinosaurographies, I have chosen a simple framing based on presenting dinosaurographic imagining associated with two highly public events along the historical trajectory of dinosaur discourses. They are the 1854 dinosaur-monster inventions presented at London's Crystal Palace Park, and the 1993 Stephen Spielberg feature film *Jurassic Park*. My attention to matters of theory, epistemology, and representation pervades the texts, something I have found important in trying to chart for myself a personal philosophy of knowing. I drift into many interpretive discussions that draw connections among diverse and pervading socio-cultural, tropological, and narrative formations/informations.

The result is a collage of four essay chapters, plus this introduction and a concluding essay. Chapter One addresses meta-theory related especially to contemporary cultural studies that inform my texts throughout this thesis. Chapters Two and Three present the situated dinosaurographies associated with the Crystal Palace dinosaur-monsters, drawing attention particularly to the contest of monstrification and purification in related discourses. Chapter Four moves to the film *Jurassic Park*, with a contingent presentation of some narrative, tropological and situational continuities reaching back to the Crystal Palace Dinosaurs, but attending to figurations of nature/culture and technoscience domination practices. The concluding Chapter Five attempts to locate dinosaur-focused fascination in terms of linguistic and semiotic category formation and related boundary traffic. In particular, these concluding remarks will speak to the possible redirecting of such boundary experiences, away from object-commodity-control orientation more typical in modern world system epistemologies, toward subject-participation-communion orientation more typical in non-Western or non-industrial cultural epistemologies.

These essays present several contingent interpretive visions of situated dinosaur imagining. They are also, in part, a sort of interpretive ethnography of my own experiences in the domains of dinosaur knowledge and fascination generation. From 1978 to 1992, I was fortunate to travel widely through many knowledge-producing territories where dinosaurs are generated, reproduced, constructed, classified, reclassified, narratized, played with, wondered at, commodified, fantasized, transmogrified etc.. In that period I contributed professionally to the development of the world's first large-scale palaeontological museum (the Royal Tyrrell Museum of Palaeontology, Alberta), initiated and managed the multi-institution dinosaur research and presentation program known a the Canada-China Dinosaur Project, contributed to design-development for several exhibits, films, and publications on dinosaurs in Canada and also dabbled in a bit of "amateur" fossil prospecting. Though I never really "left for the tropics", I have returned, nonetheless, with memory-notes of participatory observations on this polyvalent, polysemic, and polymorphous phenomenon which I now blend with the formalized reading and discourses inherent in scholarly reflection and writing.

Each essay has been written to stand alone but also generated as part of a suite of related productions. Some essays reference others in the thesis. Though at times there may appear to be direct bridging of thoughts, from one essay-chapter to another, this is rather an effect of the conceptual continuities inherent in single authorship and returns to the theme of geographies of monstrous fascination.

As in the imagining of palaeontological constructions, these chapters are like several different display specimens. They are elaborate and contingent discovery-inventions with which each viewer/reader carries out her/his own subjective dialogues. Appadurai and Breckenridge (1992) refer to these dialogues as the "interocular field", Bakhtin (1981) as "intertextualities". These dialogues and the meeting grounds suggested — whether associated with dinosaur presentation, scholarly engagement or personal participation—are the communal performances that this thesis, however obliquely in the semi-artifice of writing, seeks to point out.

Chapter One

Experiencing, Imagining, Writing Dinosaurs

1/ Cultural Studies and the Construction/Deconstruction of Significance

> *We have only to speak of an object to think that we are being objective. But because we chose it in the first place, the object reveals more about us than we do about it.*
>
> Gaston Bachelard, *The Psychoanalysis of Fire*, 1964a:1.

Those who find fossil remains may recognize them alternately for something different and special, something mystical or wonderful, something utterly devoid of significance, or something potent in meaning. For those who recognize a significance (i.e. something that signs to them), the fossils initiate a movement toward the construction of meanings, answering the recognized potency. Assigning significance is assigning categories and histories of meanings to that object (Barthes 1977, 1972, Appadurai 1986, Willis 1989a: introduction) — the object is denatured to a degree from the moment it is given meaning, in the subjective act of transforming it from an insignificant bit of matter to a significant object, an artifact (Hayles 1990:294).

With dinosaur fossils, vectors of construction are partly evidential in the transformations from fragments to anatomical totalities to visualized presentations. Those same vectors are situated further in socio-historical totalities that divert the vectors and introduce other vectors of meaning and each flurry of meanings is subjectively ordered. Visitors to an exhibition of robotic dinosaurs have already had their attention and interpretations diverted when they pay the $8.00 admission fee, when they see the scale models looking much like dinosaurs, but sounding like servo-motors and moving metal parts and smelling like rubber urethane, when they walk upon museum carpeting while gazing at dinosaur forms set against backdrops depicting forest or deserts, while accepting that these are 'authorized' visions of dinosaurs as they are located in a state-funded museum. These kinds of dinosaurs move like street mimes imitating robots. This is but one possible vector of significance conjured when a person, who had once visited an exhibition of dinosaur reconstructions leans to the ground and picks up what appears to be the tooth of *Tyrannosaurus* (see Introduction). The possibilities are as varied as the permutations of events against subject lives against possible interpretations.

Contemporary Cultural Theory

Knowledge of dinosaurs is situated in a highly chaotic social space. Questions of contingency and uncertainty have increasingly become part of contemporary scholarly work with examples ranging from the use of non-linear modeling which seeks an orderly language for disorder[1], to the literary, subject sensitive visualizations of theorists such as Donna Haraway, Andrew Ross, Judith Butler, Michael Taussig, and George Marcus. It is found in such journals as *Configurations* and *Public Culture*, which often retain disorderly or intricately thick, even 'scruffy' languages to describe disorder in the world. We are faced with the complexities of knowing, rather than generalized statements of what is known. At best, with the markings of "scholar", we claim our authority on any given topic on the basis of attention, focus, extended involvement, "deep" experience and accompanying "thick" description (Clifford, 1988; Marcus & Fischer, 1986; Geertz 1979).

---

[1] An example of possible approaches to the application of Chaos Theory is presented by Beyerchen, 1989; while N. Katherine Hayles, 1990, situates Chaos Theory as a 'strange attractor' in its own rights in a climate of post-structuralist critique and examination.

These are recognizably postmodern articulations, but I do not want to speak of the 'post-modern' in terms of the diverse scholarly expressions claiming that designation, as they, like 'modern' scholarly discourses, appear so strangely disconnected from public culture (cf. Latour 1993:51-55; da Sousa Santos 1992). I do want to speak of the postmodern in public terms — as a term which can be assigned, if only for convenience, to contemporary experience in techno-industrial society, which is immersed in such diverse cross-currents as rapid-flux meaning, television historicity, contingency, capitalist commodity orientation, value uncertainty, future and past uncertainty, day-at-a-time perspectives, one- or two-generation kin relations, sexuality/gender/reproduction focus, nature idealization, technological fantasy, and transcultural/transethnic identity (cf. Mukerji and Schudson 1991; Grossberg et al. 1992). It is precisely through these imprecise places that dinosaur imagining courses, in the subjective interpretations of *every one.* This messiness of contemporary experience compels me to draw upon a diverse range of sources that are situated within the broad interdisciplinary formation known as 'contemporary cultural studies'[2].

While acknowledging this profound and inescapable plurality of subjects and subjectivities, Krupat (1989:8-10) points out that scholarly postmodern critiques of academic authority, undermine a conduit for countering the totalitarianism of state power. By seeking to hear 'everyone's narrative', — Lyotard's *petits recits* — there is the risk of ending up with thousands of mute voices, unheard, and the academics just sit around arguing that the academic shouldn't be listened to, the 'other' should be. Yet what is required is the dissolving of notions of 'otherness', as the other is among us, is us. By embracing all knowing subjects and their narratives, a constitutive collectivity of diverse vocalities and agents is formed. This then—our many selves together—becomes the conduit for countering totalitarianism.

---

[2] The compilation of essays in Grossberg, Nelson, and Treichler (1992) offers a strong sampling of this diverse, practically counter-disciplinary formation.

Krupat's point does have a hidden corollary. Meta-narrative does ring loudly — indeed the finest of the contemporary meta-narrativists (or counter-narrativists) are having their narratives listened to, and for good reason (e.g. Foucault 1970, Lyotard 1984, Habermas 1979, Geertz 1983, Clifford 1988, Haraway 1991) as they may become the new 'meta-narratives' of the postmodern. And another 'other' is invented in their wake — that being the 'modernist' other. With postmodern discourses gaining ground, uncertainty of academic expression is also increasing. But totalizing uncertainty is unlikely to be tolerated by any consensus—and 'consensus' in diverse vocality is the key— some measure of relative community "certainty" will return to, or be retained in academic interchange[3], but the bootstraps are increasingly being loosened, and new territories of academic tolerance for uncertainty are being, and will continue to be discovered . This work attempts to maneuver through and around the traffic between new, old, and alternate certainties and uncertainties in knowing. In keeping with this intent, my writing walks the boundaries of construction and deconstruction — juxtaposing near-explanations against near-uncertainties and apparent ironies — in search of an epistemological positionality[4] that can in turn be extended into anticipated field studies at a later time.

---

[3] Examples of the debate include R. Darnell (1993); Kennedy (1994) in *Nature*, Ashmore et al. (1994) in *Configurations*.

[4] "Positionality" is a term used by Stuart Hall (1992) as a counterpoint to the term "position" which suggests a fixity of intellectual location, a conservatism. It is the spirit of fluctuation, however, that I intend here and want to sustain through all this work.

Cultural Studies of Scientific Knowledge

This work is integrative partly because that is what comes most readily to me as writer, partly because my background related to dinosaur palaeontology and popularization is 'diverse', but also because there is so little published scholarship on this topic in all fields combined, let alone in any particular field. As such, the sources are drawn widely and variously from anthropology, cultural studies, feminist studies, history, literary and film studies, studies of myth, philosophy, psychology, sociology and still other sources. Even this theoretical statement is integrative. Though I identify 'cultural studies' in this list as though it were a distinct field—something which it appears quite antithetically to be becoming—my work is carried out most particularly in the spirit of contemporary cultural studies (cf. Stuart Hall 1992) which thrives on and purposely seeks the agitation of disciplinary and theoretical strictures. To use Donna Haraway's terms, these texts present my own cultural "visualizing technology" for study of dinosaur fascination (1989:2,400).

A still narrower scholarly formation now becoming arising in North America is that of "Cultural Studies of Scientific Knowledge" and I would like to claim some affinities to that formation. Those considered its 'practitioners' appear to share some characteristics, not the least of which is that they have come to terms with the contingent. Joseph Rouse (1993) has offered a usable outline of some of the emergent characteristics of Cultural Studies of Scientific Knowledge, including:

- a refusal to require distinctive methods or categories to understand scientific knowledge as opposed to other cultural formations — i.e. scientific knowledge requires no prior special consideration than might 'folk' or 'popular' knowledge;

- a movement beyond "internalist" views of the philosophy of science — i.e. science can be viewed fully situated in the broadest of social and cultural totalities, all of which impinge instrumentally on the production of scientific knowledge; and consequently,

- open attention to the "traffic" between the establishments of knowledge and those cultural practices and formations which philosophers of science have often regarded as "external" to knowledge — e.g. institutional power, television and mass media constructions, 'everyday' experience;

- a movement some steps beyond previous "constructivist" views — which adopted a presumed social value in scientific activity (cf. Bernal 1967), i.e. science as social production; which only partially considered locally situated "personal knowledge" influences; which were sometimes attracted by the anti-normative and relativizing positions of science, "foreclosing the possibility of certain critiques"; and, still tended to defend the authority and privilege of the scientific community (cf. Polanyi 1958).

Cultural Studies of Science appear to appreciate a wider totality which can never be fully apprehended, an interest in subjectivity, and the inescapability of contested meanings and identities in knowledge production. Their active contesting of knowledge boundaries seek the removal of potential elites, and cliques, and opens the potential for a kind of 'common-ground' territory in poly-vocal political positioning. Rouse further articulates the commitment of Cultural Studies of Science to:

- anti-essentialism about science — i.e. science is not a natural kind and there is no essential way to do it; it is wide open to local, cultural, situational, dialogic, social approaches and expressions; and all of this recognizes that science is tremendously heterogeneous;

- a non-explanatory engagement with scientific practices — i.e. scientific practices are presented rather than explained;
- an emphasis on materiality of scientific knowledge — i.e. scientific knowledge is co-extensive with cultural forms such as writing, embodied action, technologies, procedures;
- an even greater emphasis on the cultural openness of scientific practice — i.e. again, recognizing the simultaneous fluidity of science with more total (global and trans-national) cultural formations and with more personal (local and situated) agency;
- the subversion of, rather than opposition to, scientific realism or science as value neutral — i.e. reality and truth claims are all positional and contestable;
- epistemic and political criticism from within the culture of science — i.e. reality and truth claims *should* be considered critically to expose inherent presumption and enactment of power and privilege in scientific practice.

Though these are some characteristics *often* found textually in Cultural Studies of Scientific Knowledge, they are not always present, and not necessarily in so strict a form. Rouse is writing of impulses and tendencies rather than rules and methodologies — something reflexively appropriate given an acceptance of such characters as contingency, positionality, and subjectivity in interpretation. Cultural Studies shun law-like practices and presumptions in paying attention to the knowledge practices that have (in their modern incarnations at least) tended toward the seeking out of laws. There is still, nonetheless — in the writing of such diverse scholars as Katherine Hayles, Bruno Latour, Joseph Rouse, and Donna Haraway — a manner of explanation, of description, still a commitment to some kind of 'realism'. But they are communicated through writing that resonates these outcomes rather than presenting them didactically. Donna Haraway writes (1991:187; also cited in Rouse):

> "...our problem is how to have *simultaneously* an account of radical historical contingency for all knowledge claims and knowing subjects, a critical practice for recognizing our own "semiotic technologies" for making meanings, *and* a no-nonsense commitment to faithful accounts of a "real" world, one that can be partially shared and friendly to earth-wide projects of finite freedom, adequate material abundance, modest meaning in suffering and limited happiness."

Haraway can be read here as saying that we should be committed to a sense of "reality" (if not an absolute reality) as a construct for community and moral action, along with an acceptance of the contingent subjectivity of things — a convictional relativism and a faithful realism—stressing 'faith' rather than 'truth'. In other words, imagined subjectivity and imagined objectivity both obtain and inform each other —but 'imagining' remains the operative term. Imagining is enough to give us consciousness and to let us have memorable life experiences. It is also enough to enable us to seek possible but continually reconfiguring collectivities of imagining within which we can maneuver more or less in presenting our scholarly conceptions of 'nature' or 'culture' and in generating multiply-located consensual moral terms.

One paradoxical claim falling from all of this is that subjectivities—the agency of all knowing subjects—are the right paths to objectivity. When we are being subjective, it is in the context of some unquestioning acceptance of an objective-like world. Each subject experiences the world in her/his own way, from a particular standpoint, given unique life histories, configurations of events, and personal embodiments—so, to speak of an objective unity becomes highly problematic (Harding 1993; Longino 1993). Instead, we must make full accommodation for a pervasive agency not just of the subjects who imagine through and interpret their respective worlds of experience, but also for our own agency as experiencing, knowing subjects generating the products of our scholarly engagements.

In this sense, I can (and do) write reflexively critical essays on dinosaurs and representation that emphasize the contingency and particularism of my views, but which *simultaneously*, suggests that there is (in my contingent and particular view) a grounded inventive/invented "reality" for dinosaurs and experience that has generated a populism that can be understood somehow for continuing moral, intertextual, and reflective purposes.

2/ Literature and the Public/Scientific, Nature/Culture of Dinosaurs

Scientific as/vs. Public Culture

Though paleontologists assume a privileged position in the interpretation and visualization of dinosaurs in highly modern technological societies, and though dinosaurs are, in such a view, a scientific phenomenon, a counter claim can be made that dinosaurs are nothing short of an entirely 'public' phenomenon, of which scientific knowing is a culturally privileged species. It depends upon where we stand. A vertebrate palaeontologist, situated in the legitimating settings of universities, museums, research institutes, or professional associations, professes in an insulating administrative and institutional 'ambiance'. Returning home she/he enters into a different 'ambiance' with the possibility of witnessing children's play with dinosaur toys, a newspaper column describing stodgy politicians as 'dinosaurs', re-runs of the 'Flintstones' or 'Pica-Piedra' (the Spanish dubbed version of the Flintstones), a text like Edgar Rice Burrough's *Tarzan of the Apes*, Conan Doyle's *Lost World*, Crichton's *Jurassic Park*, or Toho film's 'Gojira' ('Godzilla') — some of the 'great' iconic texts/images of public dinosaur imagining.

What counts as public and scientific, as fact or fiction? What are the demarcating lines, or do they even exist? The blurring obtains not simply for scientific versus public imagining, but also in trans-national terms (cf. Appadurai 1991). Dinosaurs are a trans-national phenomenon, historically and economically centred and disseminated in the modern world system of capitalism (cf. Wallerstein 1990). Most importantly, they are contestably narratized beasts, like the whole of the history of scientific knowledge and practice which "may be considered a kind of story-telling practice—a rule-governed, constrained, historically changing craft of narrating the history of nature" (Haraway 1989:4).

Nature as/vs. Culture

"Fossils help us understand the story of past life"(Andrews 1956:15). So goes the key line in the palaeontological/geological narratives that legitimate contemporary visualizations of the "terrible lizard"[5]. First, we may say that dinosaurs are natural phenomena, objectively knowable and known entities. We may experience dinosaur fossils directly with our own senses, recognizing their forms clearly as remains of animals.

Second, we may say dinosaurs are simultaneously imagined, culturally-constructed phenomena. As visualized forms 'in-the-flesh', dinosaurs are representations from ostensible scientific or interpretive mediation and loaded symbolically with social meanings. They are socially imagined and constructed. In this view, dinosaurs are social phenomena, cultural maps, entailing the forms and means of socially-situated knowledge production and power relations in their emerging representations.

Dinosaurs are written and read as texts. They are narrated, discursive formations, generated more by accidents of uncertain histories, events, and inter-textualities than they are by any design or any reality. Two children staging an encounter with plastic dinosaur toys draw upon, deploy, and generate contingently, dialogically, and situationally their own subjective texts of what constitutes 'dinosaur', 'encounter', 'play', 'reality'. Indeed, what we say/write of these texts constitutes a further text. In this view, dinosaurs are subjective texts, fictions, 're-presentations' of 're-presentations', readable, deconstructable.

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[5] Any number of myriad children's books, museum texts, could be cited here as could popular books authored by scientists (egs. Swinton, 1934, Hotton 1968, Norman, 1985) or wholly legitimated texts in palaeontology (eg. Romer 1933).

I call attention to these several means of recognizing (or misrecognizing) dinosaurs to echo an observation of Bruno Latour in relation to three dominant and seemingly exclusive contemporary theoretical impulses: naturalization, socialization, and deconstruction, exampled respectively in the works and writings of sociobiologist E.O. Wilson, sociologist Pierre Bourdieu, and philosopher Jacques Derrida (Latour 1993:5-6). Latour notes that in the contemporary worlds of academic discourse, "we may glorify the sciences, play power games, or make fun of the belief in a reality, but we must not mix these three caustic acids." Latour continues, "this would be a hopeless dilemma had anthropology not accustomed us to dealing calmly and straightforwardly with the seamless fabric of what I shall call 'nature/culture' since it is a bit more and a bit less than a culture." In the case of dinosaurs, it is abundantly clear that it is possible to consider them epistemologically as a blurring of these terms — as nature, as culture, as text.

Science and social science have examined these two domains — nature and society — and have in the process created a divide between them, along with a very loud polemic that says science can explain nature, and social science can explain society. But some in the sciences go further to say that all society including such aspects as racism, sexism, gender roles, etc., is explainable as 'natural' — eg. sociobiology. Then some in the social sciences go further to say that all nature is explainable (or describable) as 'social' — eg. constructivism. In all situations we have retained the separation of nature and culture.

Latour calls these acts of "purification" in that they seek pure explanations of phenomena, implying that mixing of explanations is possibly a kind of contamination.

Enter the textualists, literary theorists, and deconstructionists, going a step beyond the socializers and the naturalizers, who say that all are creating fictions in any event — so they begin to make fun of the whole contraption, and to begin to dismantle it playfully, critically, literally. Latour, though unwilling to abandon nature or culture, recalls the literary-textual impulses in all his descriptions.

Looking back at nature and culture, Latour proposes the text "nature/culture" — a hybridization. He points out that there are so many existing nature/culture hybrids appearing over time — the AIDS 'crisis', the hole in the ozone layer, species and ecosystem extinction, human-technology interactivity (eg. Haraway's "cyborgs", 1991), and hundreds more examples that can be found on nightly broadcast news — all are simultaneously, fully unified natural and cultural phenomena. If one atomizes and extracts elements for the different disciplines to examine the issue, one simply establishes the contest all over again—who knows best? Each discipline, each discursive field, each writer sustains the separation in one way or another—and the multiple poles remain incommensurable (Morell 1993). The picture is like that of a river with nature and objects on one side, and culture and subjects on the other. While scholars busy themselves on one side or the other, throw stones, put on blinders, or scurry back and forth in vain attempts to reconcile the two, those such as Latour and Haraway attempt to fly overhead, or follow the stream to its source where the two sides meet, or alternately they reveal that the river waters are ephemeral and inconsequential, the channel has a bottom made of the same ground which connects nature and culture, making them practically indistinguishable — borders crossed, battles lost.

Literary Worlds of Nature/Culture

This opening essay is an attempt to set out ways to visualize subjective and collective engagement in dinosaur imagining allowing, as Latour does, for various epistemological and theoretical approaches, yet choosing, again as Latour does, to move freely between natural, cultural, and textual presentations and epistemes. It does not simply seek to situate the later essays, but also to develop a dialogue with the reader such that some signifying resonance—to use one of the few and therefore battered words in English to describe such an effect—can be generated, a resonance that can then be carried forward into subsequent chapters[6].

All of the texts that follow agree approximately with Latour's view of "nature/culture".[7] Given fossil bones in the earth, dinosaurs are "a bit more" than cultural. Given their particularity as mutable, bounded conceptual categories, they are contingent visions that can never have fixed totally shared meaning, and as such they are also "a bit less" than cultural. These essays move with, through and around the idea of nature/culture as a continuity expressible and expressed in public and scientific engagement with a phenomenon that is easily designated as nature/culture: dinosaurs. Indeed, the claim I make (or imply) again and again from many different perspectives throughout these essays is that fascination with dinosaurs revolves and accretes around their indeterminate status as natural or cultural — dinosaurs are modern and postmodern tricksters of western techno-industrial societies. They can — in their imagined forms and ways of life — be simultaneously ‘us’, ‘like us’, ‘unlike us’, and ‘not us’. Their ready transmutability makes them potentially engaging to all knowing subjects.

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[6] I recognize my own texts as literary inventions, and approach the writing as literature. Literary approaches to the cultural study of science, technology and science-related topics (and dinosaurs are that as well), are exampled in *Configurations: A Journal of Literature, Science, and Technology.* Such approaches move away from claimed empiricism. It is a response from a growing number of scholars to question's such as that of Steve Woolgar "should we be scientific in our study of science?" (Woolgar, 1988:12)

[7] I use the term nature-culture because it implies continuity: nature merges with culture and culture with nature. There is no fixed break, no real demarcating lines. Instead, as I shall be presenting it in this opening essay, the lines are subjectively and situationally drawn. I might also have written 'nature/culture/text' to complete the circle, but it would become increasingly awkward to write with this conglomerate and, in any event, textuality is assumed throughout this presentation. Nature, culture, and nature-culture all can be viewed as texts.

Dinosaurs are extraordinary in the conjunction of their massive popular appeal with their thoroughly constructed, imagined visualizations and textualizations. Compare this with popular living animals (whales, apes, lions, elephants) of which we have what are accepted to be true representations in the form of photographs, films, personal accounts, direct experiences, audio and video recordings. We know we can touch a whale, but can we touch a dinosaur? In the all-too-real fictive world of *Jurassic Park*, or the ostensibly less fictive but no more real world of museum displays we come close to the touch. Yet how much fiction or reality intervenes when we reach out and touch a whale on a guided whale-watching tour — fictions/realities of whale intelligence, whale sensitivity, whale ‘humanness’, of environmental apocalypse or salvation (cf. Kalland 1993; Ris 1993) — and what are the ‘truth effects’ of those fictions/realities at the moment of inutterably real tactile contact? When we find and touch a 75 million year old dinosaur fossil, what other sorts of fictions/realities come into play?

Still, while clearly subjects of psychic and social production, the semantics of “whale” are arguably less constructed than the semantics of “dinosaur”. Whales are alive and swimming in the oceans of the world. Dinosaurs are gone. In this particular comparative sense of the ‘here and now’ and the ‘then and there’, we can put more weight on the ‘nature’ in the nature/culture of whales and, in contrast, and on the ‘culture’ in the nature/culture of dinosaurs. Whales are closer, dinosaurs farther—both true to life fantasies.

While acknowledging the utter reality of fossil bones from the earth, it is not my intention to examine the truth claims of vertebrate palaeontology, but to accept the productions and polemics of that scholarly field as part of the larger literature constructing dinosaurs[8]. I will not set forth to systematically disentangle popular 'non-scientific' representations (eg. the dinosaur characterizations in the film *Fantasia*, or in the *Flintstones*, or in Conan Doyle's *Lost World* — all of which are inescapably science-informed representations in any event) from 'science-endorsed' representations (museum displays, scientific illustrations, reconstructions in palaeontologist-authored books — all of which are purposely selected, partly fictional visualizations to achieve some social end). Instead, I would pose the question "who can claim uncontestably that their childhood conceptualizations have no influence on their adult envisioning, or that television imagery does not impinge on (or even inspire) their scientific envisioning?" Once again, I am questioning the significance of any perceived dividing line between fact and fiction.

Dinosaurs in Science Literature, Dinosaurs in Imaginary Literature

Science is a literature, and fiction is a literature. This is a basic and contingent conceptual dichotomy that rules so much of our literary experience. Non-fiction and science count as reality stories, while fiction counts as fantasy and made-up stories. But dinosaurographies do so, so much to blur that dichotomy, to confuse and subvert it, and in turn to suggest the possibility of subverting all legitimized narratives of science.

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[8] Here, I include within the idea of the "larger literature" all those expressions and productions which produce any manner of situated narrative—illustrated and sculptural "reconstructions", skeletal mounts in public displays, scientific publications, cartoons, novels, children's stories, animated films, etc.

I read the dinosaur literature as one body of literature that is divided into two types for the sake of convenience—stories of the real world (our creation, evolution, world and life story), and stories of the imagined and invented world (diversions, entertainment). Applied to dinosaurs there are those dinosaurs that are validated and those that are fantastic. But when we look at the history of the constructions of the validated dinosaurs we see how exceedingly imagined they are and how they embody that which scientific practitioners accidentally, wishfully, or willingly allow us to know. They embody the wishes of scientific practice and practitioners, which in turn are embodiments of current social fears and wonders. Then there are fantastic dinosaurs—and when we look at the history of their constructions, we discover that they are much more immediate embodiments—i.e. unmediated by such careful rhetoric with which science insulates itself—of current social fears and wonders (e.g. *Godzilla* and the nuclear fallout age in Japan, *Lost World* and the steadfast belief in a feared land of savagery and horror as nature, *Jurassic Park* and the experiments with becoming gods and powers over feminized nature through biochemistry — the capitalist spirit conquering time, nature, animal power, the genetic code).

But science is a social wonder. And today it is also a social fear. Its benefits are contestable in global terms. Palaeontology is a social wonder, but why should dinosaurs be selected in palaeontology as the great fixation? Why not placoderms, or ostrocods, molluscs, or even the dinosaur-scale *Titanotheres, Baluchitheres, Megatheres, and Uintatheres*?[9] For some English language readers, many of those words may not conjure an image. Replace them with *Tyrannosaurus*, *Triceratops*, *Stegosaurus*, *Brontosaurus*—comparably polysyllabic words of science—and the result is likely to be imagistic.

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[9] The most studied and recognized vertebrates of the palaeontological world of the early to middle 19th century were those that divided into "theria" or beasts for mammal specimens, and "sauria" or lizards for reptilian specimens — an elementary bounded system of classification that selected mammals and reptiles as suitable predominant categoric oppositions. Exampling this is the preoccupations of Cuvier who described ***Megatherium*** and other large 'therian' quadrupeds, while simultaneously the British (Coneybeare, Buckland, Mantell) were preoccupied with the 'saurian' ***Mosasaurs***, ***Ichthyosaurs***, ***Megalosaurs*** (see Buffetaut 1987:60-61). The dividing up of these classes

The larger 'literature' I speak of includes all manners of historical presentations of dinosaurs in all media and situations, but I pay special attention to those productions that have had iconic, definitive, popular effect. Some examples I draw upon , examples of various dinosaurographies, include:

- the Crystal Palace Park dinosaurs of Richard Owen and Benjamin Waterhouse Hawkins;
- the texts associated with the American Museum of Natural History's Central Asiatic expeditions;
- the popular and semi-popular publications of palaeontologists;
- the *Diplodocus* casts sent out around the world at the behest of industrialist-philanthropist Andrew Carnegie;
- the film *Jurassic Park* and the commentaries on the film, as well as the merchandise productions associated with the film;
- popular dinosaurs or dinosauroids — 'Barney' the anti-tyrannosauroid from American public television, 'Dino' the prosauropodoid from *The Flintstones*, 'Sinclair' the brontosauroid of the now extinct Sinclair Oil Company, 'Godzilla' the hybrid

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for research across the English channel suggests a possible key formative impulse which would see a much greater emphasis later on for the French in the study of ancient mammals, and the English (and subsequently North Americans) in the study of ancient reptiles. Mesozoic reptiles were being found in England creating a focalization on the saurian manifestations, while Quaternary mammals were being found in France creating an alternate focalization on large mammalian manifestations. This appears to add to the veracity of any claim that generation of dinosaurs is more extensively an anglo-colonial cultural formation.

stegosauroid-tyrannosauroid created by Toho films, and Dr. Dale A. Russell's "thought experiment" Troödontid-humanoid for which he first coined the term "dinosauroid" (Russell and Seguin 1982;D. Russell 1987).

When looked at in this manner, the totality of presentations — visual, textual, cinematic, electronic, etc.—all become literature with implicit signs and convictions about the natural-cultural status of dinosaurs. Taken together, there is a scope of dominant visions from which emerges several dominant narratives and super-fictions of dinosaurs. Leaving ontology aside—as any ontology is contestable and thereby an epistemology instead (cf. Harding 1993)—such narratives can readily be viewed as having the status of contemporary Western techno-industrial 'myths' or 'legends'. I attempt here a version of just such a situated super fiction considering the central figuration of dinosaur monstrosity, and from that offer an interpretation of possible modalities of fascination in dinosaur imagining which can be extended in considering other shifting boundary beasts of contemporary western societies (e.g. whales, apes, elephants, sharks).

I will be selecting particular aspects of the 'history' and construction of dinosaur ideas, including apparent political and economic totalities by, of, and through which they are constructed. I will draw on my own knowledge of current palaeontological discourse related to dinosaurs. This discourse is dominated publicly and scientifically by a handful of individuals — e.g. Philip Currie, Robert Bakker, John Horner, Paul Sereno, David Norman, Dong Zhiming — a decidedly male 'club'. And each of these move and work in institutional and life settings that partly construct their respective knowing.

Throughout these essays, I am aware and attempt to subvert—though with the inescapable limitations as an embodied male—the incessant male/masculine selectivity of dinosaur-related discourses[10]. The generation of this visual-political-discursive field by men presents and reproduces glaring absences of women's perspectives—women, the 'feminine' and all associated constructions are nearly exclusively written by white, especially English and American, intellectual males. Dinosaurographies—as public-culture, nature/culture, science/culture fields—are a politically exclusionary masculinist discourse, lending notions of 'patriarchy' a particularly disturbing veracity. As part of my critical perspective, these texts foreground some of the more prevalent masculinist features of dinosaur narrative, sometimes without comment, but always with the aim of focusing attention on these overwhelmingly pervasive and embedded figures.

The writing is hybrid analysis-interpretation[11]. That is, the texts do not follow strict literary analytic methodologies. Discourse and literature are more and less than tropes, more and less than narratives, more and less than power relations, and still more and less than all these things together. Like life and conversation, it is messy, full of left and right turns, high and low moments, shifting tonalities, intersecting lives and subjectivities. In keeping with something akin to Latour's view of the pervasive hybrid character of discourse, experience, social existence, and technoscience, the texts keep diverting back from paths that might appear to be leading to statements of purity, or explanations to avoid restrictive naturalizing or socializing impulses—both for myself and for the reader. Pure-looking statements need to be considered with caution—contemporary theory alerts us that things could appear very different tomorrow.

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[10] Adding but another male voice to the cacophony I realize appears to do little to subvert the discursive power relations. However, I was happy at the 1993 meetings of the Society of Vertebrate Palaeontology in Albuquerque to find new interests in this direction from a member of the Society executive, a feminist herself. She was seeking to support all possible avenues for redressing of accessibility to the palaeontological profession by women and by women and men of color, and of different social and ethnic backgrounds.

[11] The essays are interpretive (eg. Geertz). They are positional, convictional, and generative (eg. Haraway). They attend to narrative (eg. Krupat). They address culture and tropes through time (e.g. White, Hill, Ohnuki-Tierney). They acknowledge transnational, world systemic knowledge flow and production (e.g. Appadurai, Wallerstein). They accept only with caution the necessarily perspectival, selective claims of history sources (e.g. Rudwick, Desmond, Atlick, Torrens). They draw especially upon social and cultural studies of science (e.g. Latour, Traweek, Woolgar). They critically engage epistemologies, languages, and cultural constructions of sex and gender (e.g. Keller, Haraway, Harding). And they consider many additional diverse perspectives offered from anthropology (e.g. Tambiah, Mauss, Douglas, Basso , Clifford, Tyler, Taussig, Marcus).

Most importantly, these essays start from experience—my own experience in living and reading as part of that living—and a multiplicity of additional personal experiences read from the writings of all whom I cite. They move from the locality of experience to the globality of something we can imagine and label as 'culture', but which, for the time being, I prefer to speak of only as 'nature/culture'.

3/ Visualizing Continuities — An Epistemic Turn

The pervading attitude which I present in these inventions is one that attempts to undo tendentious conceptualizations of discontinuity. By removing the overlay of apparent separation in the universes of experience, knowing, and writing, what remains is a basic sense of continuity (see Tambiah 1990; Willis 1989a). To envision continuity in the sense I am suggesting means to loosen habitual constraints of viewing the world in discrete particulate terms — a tree is no longer an object standing alone, rather it is continuous with the ground in which it is rooted, with the air with which invisible chemical exchanges take place, with the sun from which it draws energy, with its ancestry (genetically, historically, genealogically etc.), with the memory and participation of the person who looks upon, knows, imagines or writes the tree. "Tree" is a subjectivity which flows experientially-conceptually in different directions for different subjects.

Correspondent continuities could be written of a computer, an event, a neutron, a friend, a monster, a number, a fact, an emotion, a history, a television broadcast, a dinosaur bone, a picture of a dinosaur, a piece of bread, or a whole ritual in which bread is eaten. Everything is continuous, and it is the subjective participation with each "thing" that brings significance, recognizability to the thing.

Continuity and discontinuity are embedded in languages— some languages speak more as, and remind us of, continuities, some languages speak more as, and remind us of, discontinuities. But all language and semiosis place some range of discontinuity before us. Analyses of symbolic systems—whether carried out by Saussure (1959), Sebeok (1975), Eco (1988), Barthes (1977)—have similarly shown a reliance on atomization and categorization (e.g. semiosis, signs-signifiers-signified), though the 'shiftability' and 'arbitrariness' of elements is now fully acknowledged. Still, it is the overlaying of classificatory systems that creates, by means of cognitive diversion, the illusion that the world is divided into discrete things. In palaeontology, this is no less the reified case as Hotton (1968:9) presented it "Classification, or ordering of phenomena, is a primary requisite in the scientific study of anything". This is the 'prime directive', for without it, knowing in the modern sense, would be devoid of absolute meaning—the basic dream of modernist thought and domination.

So what happens in cases of clear uncertainty of meaning, as with knowledge of dinosaurs, or for instance as with Bachelard's 'fire' or 'poetic spaces' (1964a; 1964b)? How can subjectivities be accommodated in a historically developed epistemological domain that has analyzed the world as though it were a collection of objects, or particles, or of particularities? N. Katherine Hayles has spoken of one accommodation in her "materiality of informatics" (1993), where continuities of knowledge with practice, technology, institutions, and politics can be read through the visor of fluidity. Blackfoot traditional people speak another accommodation in their conceptions of a simultaneous tangibility/intangibility of all things. An object is not simply an object if its intangible character is recognized, a character that flows seamlessly through the subject-object space, between them if you like. By the very act of naming something or someone, the intangible aspect of the subject and of the object are engaged and interflow. This is quite the opposite perception of the hard-edged, atomistic, positivistic, rationalist imagination which posits subjects as strictly bounded, language and words as discrete mediating units, and objects as "out there". This participatory engagement in 'things' has been noted repeatedly, but not carried far, over the course of anthropological history (cf. Mauss 1954, Lévy-Bruhl 1985, 1949, 1923, Honigmann 1963, 1959, Willis 1989a, Tambiah 1990). The recent writings of Michael Taussig (1993) and Stephen Tyler (1991) do make a return to the participatory through the "mimetic faculty" and through orality respectively.

Throughout this thesis, I will attempt to sustain this sense of continuity by my selections. It will be expressed as nature/culture continuities, historical continuities, life narrative continuities, textual-experiential continuities, human-animal continuities, subject-idea-word-object continuities. Taking this to an extreme, each of these continuities in selected situations could equally be viewed as continuous with the others. This view of things and their continuities can be seen as a "theoretical" perspective in the conventional sense or as a "visualizing technology" or a "semiotic technology" in the sense used by Donna Haraway (cf. 1991:188-91; 1989:54, 286, 400). Whatever the category of description applied to this kind of expression or view, I will try to translate it in many possible ways and to sustain the emphasis on continuity throughout. This, I believe, should be the aim when speaking faithfully of merging theory and practice — yet another continuity. The essay in this thesis "The Sleep of Monsters Produces Reason" offers a more thorough-going discussion of the manifestations of continuity in terms of 'everyday' language, category deployment, and boundary conceptualization, taking this discussion into the realms of politics and agency.

The implications run deeply. If an object is subjectively known as being more than just the physically demarcated thing, and it has characters that extend beyond those only-apparent boundaries, writing and interpretation of knowledge and experience takes on a very different character than that emphasized in claims of objective analysis and description. It dramatically opens epistemological and interpretive possibilities compared with the historically accepted, reified, and entrenched practices of particularizing academic analysis. The contingently experienced, imagined, and written dinosaur presents itself as a "form of life" exemplifying how this visualization can be and, realistically, has been performed.

Chapter Two

The Failure of Dinosaur De/monster/ations

Part One: Fantastic Beings at London's Crystal Palace Park

There was a scurry of children, all rushing keenly toward the low iron fence bordering the park walkway. Although I was plainly in view on the grassy rise beside the path, they glanced up and paid me no heed. I smiled at their exchanges as they looked across to the mid-19th century inventions of anatomist, Richard Owen, and sculptor, Benjamin Waterhouse Hawkins, which had become the objects — or subjects — of their wonderment.

Amid imitative roars and screeches of playful terror, I heard them call out names in excitement "Brontosaurus", "no, Stegosaurus". Close behind them came the three adult escorts, all women. They were shepherding the twenty or more children into a close bunch so as to view the dinosaurs on the other side of the fence, across the moat-like channel which gave the effect that the immobile, painted clay beasts were standing upon some primeval island, safely contained. The brush had grown up around the sculptures in the 140 years since they were first placed here, to the point that some of the animalian forms were quite enshrouded by the foliage of surrounding trees, adding to the mystery. The children continued to prattle with one another as to which kinds of dinosaurs these benign menaces might be — these monstrous apparitions, a sort of iguana-rhinoceros hybrid, are very different from those projected in current popular books on dinosaurs. They sought resolution of the matter from their adult guardians. One of the women turned to another, "do you know anything about dinosaurs, I mean what kind they are?" The response came back "oh no, I'm not sure at all — they are strange looking, aren't they?; I really don't know either, perhaps they are brontosaurus dinosaurs" replied the first. Then, shrugging, she turned back to the children "I think these are just made-up dinosaurs, not real dinosaurs, you know, figments of someone's imagination".

Re-Reading Crystal Palace's Theme Park Creatures

> *...those vast and unpleasant animals that existed on our planet fortunately before man made his appearance.*
>
> V.R. Markham, *Paxton and the Bachelor Duke*. 1935:242.

> *Even at their most secure, ruling regimes strive to do more than just convince people of their ideological message. They seek to limit ambiguities of meaning and proliferations of power, to naturalize their world views in the commonplace.*
>
> Jean and John Comaroff, *Of Revelation and Revolution*. 1991:314.

The dinosaurs of Crystal Palace Park have long commanded public fascination and confusion. Their presentation and history in the context of one of the great inaugurating theme parks of modernity, embody many of the expressions of colonial power and knowledge legitimation that have come to be reified again and again in the continuation of capitalist techno-industrial societies. This contextualized re-reading of the Crystal Palace Park dinosaurs, considering their public-scientific cultural status as 'monsters' , presents an epistemological and literary alternative to the more science-internalist interpretations of historians Adrian Desmond (1982, 1976) and Martin Rudwick (1992).[1]

The full-scale dinosaur reconstructions placed in Crystal Palace Park in the south London suburb of Sydenham were imagined by Benjamin Waterhouse Hawkins and Sir Richard Owen in 1853-54 on the basis of limited fossil remains of the dinosaurs[2] known as

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[1] While seeking a counter-narration, this re-reading draws gratefully and critically on and around the historical constructions and sources presented by both Rudwick and Desmond, along with several other commentators on the Crystal Palace pseudo-beasts (e.g. Glut 1980, Haste 1993, Torrens 1993)

[2] The *Hylaeosaurus* is most obscured by foliage from the pathway vantage points, and it is the *Iguanodon* and *Megalosaurus* that are most visible to the passing viewer. Several other beasts were invented and incorporated on the islands (see pp. 11-13 in this chapter).

Iguanodon (a large herbivore), *Megalosaurus* (a large 'carnosaur')[3] and *Hylaeosaurus* (an armoured herbivore). This was the first major public presentation of dinosaurian forms. No more than ten genera of dinosaurs had been recognized from fairly scanty, mostly cranial material since William Buckland described the first dinosaurian kind *Megalosaurus* in his 1824 paper to the Geological Society of London (Buckland 1824; also see Delair and Sarjeant 1975; Norman 1985:10).

Benjamin Waterhouse Hawkins had illustrated the reptile sections of Darwin's report from the voyage of the *Beagle*, and was then commissioned by the Crystal Palace Company, notably by the Palaces architectural designer Joseph Paxton, to contribute models of giant prehistoric animals as one of many attractions planned for the grounds of the park. Hawkins humbled himself to what he saw as the wisdom of the acclaimed British authority on fossil reptiles, Sir Richard Owen, who in 1842 had named the group of fossil animals *Dinosauria*. Models and sketches were made under the guiding eye of Owen, a workshop building was erected in the park for the full-scale productions, and all the materials of industrial invention were brought into the constructions: iron columns, bricks, drain tiles, cement, artificial stone, straight iron, cube inch bar for bones, sinew, muscle (Hawkins 1854). The materials that built Victorian London's homes and spectacles, built the dinosaurs, expressions of the highest technologies of the time—"the wonders of modern science, in the form of a newly material scene from deep time, could be viewed against the backdrop of a building that embodied the equal wonders of modern technology" (Rudwick 1992:144)—the expressed parable wrote out how the earth's deep mysteries could be divulged to the masses through gigantic, imperial-scale, public display media. To give the final seal of imperial approval, Queen Victoria opened the grounds in 1854 to a crowd of over 40,000 onlookers.

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[3] Among dinosaur palaeontologist today, the term "carnosaur" — lit. 'meat-eating lizard' — is used frequently as a designation of any sort of apparent 'meat eating' dinosaur. A feature film (1993) employed this name as its title, amplifying the attention. Interestingly, there is no corresponding jargon "herbosaur" for 'plant eating forms'. The disproportionate attention paid to carnivores, in spite of their relative scarcity in the fossil record (eg. Bakker 1972), and the similar extreme attention in popular culture representations (e.g. Paul 1988, Lessem 1992) indicates a special vector of dinosaur fascination that constructs what Colinvaux (1978) has called "Big Fierce Animals" — conjuring images of fearsome, menacing nature.

Embodying Empire: The Theme of the Park, the Theme of the Monsters

Although scholarly publication on the fossil remains of what would later be named "dinosaurs" (Owen, 1842) began as early as the 1820s (e.g. Buckland 1824; Mantell 1825), this first three-dimensional public presentation of dinosaurs *as* dinosaurs did not come about until 1854. At this time, the Crystal Palace of the 1851 "Great Exhibition of the Works of Industry of All Nations" — the most ambitious display of industrial invention and colonial power mounted up to that time — was moved from Hyde Park and rebuilt in Sydenham Park in London.[4] The Crystal Palace itself would be transformed into a centre for the exhibition of the nation's 'arts and sciences' — a commercially-operated public leisure theme park (Atlick 1978:34). In its new incarnation and location, the Crystal Palace would become a "Winter Park and Garden" (Beaver 1970:79).[5] In unashamed imperialist spirit, the edifice would house galleries illustrating Euro-centric histories of art, as well as Victorian-equivalent 'virtual worlds' of Medieval, Grecian, Roman, Byzantine, Romanesque, Pompeian, Chinese, Alhambra, Renaissance and Egyptian courts — suggesting trajectories of civilized history, leading ever-progressively toward this pinnacle of civilization here, ironically, in a London suburb. A 4000-seat concert theatre, with a corresponding 4000-performer orchestra space, was easily accommodated in the behemoth structure. Its fully glass-paneled "ferro-vitreous" skin would permit year-round vegetation displays, with hundreds of free-flying birds, and still hundreds more taxidermically prepared birds, mammals, and fishes. Nature was fully-entailed and selected for a public visitation in the order of two million people a year — attendance figures that would be sustained virtually to the turn of the century (Atlick 1978:483).

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[4] Sydenham Park was renamed "Crystal Palace Park", a name which is retained to the present.

[5] The descriptions here follow several sources: Beaver 1970; Atlick 1978; Desmond 1976, 1979c, 1982.

The visitor arriving at Sydenham Park came by train, the global circulatory system and cultural delivery technology that ensured and helped fuel imperial greatness by flowing cultural empire in one direction and the profits of resources and labour in the other. One would pay the train fare to travel to Sydenham, as well as pay the one shilling weekday admission to the Crystal Palace, increasing to 2s.6d. on Saturday afternoons; the week day of hyper-amusement and hyper-attendance warranted hyper-revenues for those that operated the park. Both fares fed to the same benefactors—the Crystal Palace Company and the London, Brighton and South Coast Railway Company had shareholders in common, notably the chairman of both corporations (Atlick 1975:483). The exploitative practices of colonial economic expansion achieved through overland transport networks were mirrored in this small microcosm in the southern parts of England. The coach journey from home to the Crystal Palace to partake of the ideology and symbology of imperial power provided a potent reification of the principles and wonders of being industrial, civilized, global, and proudly Victorian. As with CNN, BBC, CBC, Paramount, Universal City Studios and the myriad other instruments of controlled television world witnessing today, the expansive railway-theme park amusement and ideology production system was made accessible to all who had the shillings to see the constructed worlds that lay down the line from their crowded flats and doorsteps.

This microcosm of empire was unambiguously presented in the inaugural address for the Hyde Park Great Exhibition, given by the Queen's consort, Prince Albert. His utopian remarks serve equally well as vision for the Sydenham reincarnation of the Crystal Palace:

> Nobody who has paid any attention to the peculiar features of our present era, will doubt for a moment that we are living at a period of most wonderful transition which tends rapidly to accomplish that great end, to which, indeed, all history points—the realization of the unity of mankind.... The distances which separated the different nations and parts of the globe are rapidly vanishing before the achievements of modern invention, and we can traverse them with incredible ease; the languages of all nations are known, and their acquirement placed within the reach of everybody; thought is communicated with the rapidity, and even by the power, of lightning. On the other hand, the great principle of the division of labour, which may be called the moving power of civilization, is being extended to all branches of science, industry, and art.... The products of all quarters of the globe are placed at our disposal, and we have only to choose which is the best and the cheapest for our purposes, and the powers of production are entrusted to the stimulus of competition and capital.[6]

These remarks affirmed the Victorian mission of expressing the centrality and supremacy of English society in an expanding and progressively colonized world. Ethnological displays in association with mounts of exotic beasts from afar permitted the fabrication of fictions for constructing and reinforcing a British sensibility that could be unified and bounded socially by opposing colonial visions of the cultural 'other' , the animal 'alien' , the geographically 'distant' , "exotic captives" (Lofgren 1985:211; Ritvo 1987:205-242). Juxtaposing the 'civilized' European culture boldly next to these various exotica would have produced an unambiguous sense of the 'us' versus 'them' , a now mundane figuration of Victorian urban cultural experience. This was a palace of the conquered exotic, a Victorian popular playground of colonial gawking, wonderment, and

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[6] Cited in Sorkin 1992b, after Friebe 1985.

‘enlightened’ industrial self-reassurance, celebrating “the ascension of civilized power over nature and primitives” (Hinsley 1991:345).

The paralleling of dinosaurs in Crystal Palace Park with captive animals in the Zoological Gardens at Regent's Park—an alternate afternoon entertainment diversion for the public—would have been easy. Understanding the park dinosaurs as models of giants, not animated beasts with beastly drives, would displace any psychological impulse to cage the beasts as live creatures would have been caged at the zoo. Again, the redundant moat became the principal instrument of present/past delineation—combined with the unusual size and bizarre appearances—minimizing ambiguity about the extreme otherness of these simulacra. Stephen Jay Gould (1993) characterized contemporary dinosaurs in a way that would have been entirely suitable for the situated Crystal Palace dinosaurs from 1854 onward, “alluringly scary, but basically safe”.

Inventing the Lost World

The invented Crystal Palace monsters were located on three *faux* islands in an artificial six acre lake constructed in the park's public pleasure gardens—gardens intended to rival those of the Versailles Palace in France. Hawkin's original plans projected a hydraulic system that would raise and lower the water levels in an attempt to suggest the rise and fall of ancient seas as this was understood by Owen—the technology for this was apparently never realized (*Illustrated London News* 1853, cited in Rudwick 1992:146). The presentation included a range of giant reptilians and mammalians situated horizontally on the islands in order of their age—although the sequencing would be lost on most viewers, including myself when I first saw the constructions. The supposed sequence “culminated” with the Cretaceous and what Owen saw as the ultimate manifestation of reptilian creation, the *Iguanodon*. This early coding of the "Age of Reptiles" effectively introduced a separate world of creatures of "deep time".[7]

Rising behind the creatures were low "artificial cliffs" presenting the illusion of the strata which produced the unpresent fossils on which these improbable reconstructions were based. In the absence of any didactic displays on the geological processes, the unaided public would not recognize this significance, and these pseudo-strata would have been particularly non-signing.[8] The likeliest readings of these half-beasts, half-buildings would have been those which emphasized the way the creatures appeared, their stance (fixed in immobility by gravity and mass), their visual relationship to one another, the implied action (or inaction in this case), their bestial expressions (notably blank), the plausibility of their presentation technology (i.e. bricks and mortar), and their situating on faux islands in an invented utopian landscape next to a giant iron and glass edifice displaying "the marvels of ancient art and modern commerce and ingenuity" (*Illustrated London News* 1853). We can add human bodies to the reading in the form of other ambling Londoners and foreigners here for entertainment and edification .

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[7] "Deep Time" is Rudwick's expression for the profound past. His thesis is that depictions of past natural realms have long suggested a decisively demarcated separation between the present, that which is temporally near to hand, and the past, that which is temporally far away.

[8] The stratigraphic sequencing was lost on me in my own visit, even though I am well-acquainted with principals of stratigraphy and sedimentology. Owen (1854) published a "threepenny" guidebook *Geology and Inhabitants of the Ancient World*. This publicly affordable handbook would have been a source for the generation of public conception of geological time sequence—a geological interpretation based on Owen's modfied creationism. However, Atlick (1978:1) points out that the large majority of visitors to public attractions such as this were not literate. Of the minority left who could read, it is unlikely that all would have read the texts, so the knowledge-forming effect of the guidebook is dubious at best. The reading I offer here, that is one achieved without the guidebook, is one that would have had keen psychic effect. Even with the aid of the guidebook for those reading visitors, formal technical knowledge would act less to structure narrative understanding than the much more direct visual effect of the creations in their dreamed gigantic glory (Douglas 1973: Introduction).

The beasts are presented as 'domesticated monsters' (cf. Rudwick 1992:135-172) abiding side by side in dull-witted, pastoral passivity. Following Owen's creationist stance, the beasts are in the form of blended pachydermal-crocodilian archetypes (Desmond 1982), decidedly placid and placed upon the earth recalling biblical notions of lions laying down with lambs — supposed inventions of a beneficent 'Lord Father' , Creator of all things. Owen "was determined to believe that a 'pre-existing model' for the vertebrate species existed in the mind of God" (MacLeod 1965:270). For Owen, these creatures were to be as practical pinnacles of reptilian form resulting from Divine Creation — anything but the constantly mutable forms that would have been the suggestion of evolutionists such as Charles Darwin and Thomas Huxley, nor steps in an ascending progression toward the human form, as might have been suggested by Lamarckians such as Robert Edmond Grant (Desmond 1979b).

Though these presentations of dinosaurs were claimed at the time to be scientifically legitimate (see *Illustrated London News* 1854; Waterhouse Hawkins 1854), both public and scientific imagining of dinosaurs was only remotely a thing of nature—that is science intended as mimesis of conceived nature. What nature existed in these invented dinosaur 'reconstructions'? Owen had little fossil material to imagine with, and none of that material was presented at the site in any case. Waterhouse Hawkins had the visions Owen offered and what he himself could imagine as a practiced image maker. They constructed *Iguanodon* with its thumb claw protruding from its nose, thinking the claw to be a horn, and more importantly thinking the creature to be a rhinoceroid. They painted it with dull, uniform lizard colors, lacking anything to suggest brilliant colour, but more importantly thinking the creature to be, simultaneously, an iguanoid. They presented it as lethargic, thinking it also to be crocodiloid.[9] They made both *Iguanodon* and *Megalosaurus* into quadrupeds, thinking, in the absence of four complete skeletal limbs, that the limbs were similar in scale and positioning, and more importantly thinking *Iguanodon* and *Megalosaurus* to be pachydermoids. Some years later, they would be presented instead as bipeds (cf. Delair and Sarjeant 1975; Norman 1985).[10]

The result was monsters—*Iguanodon* was an 'iguanorhinocerpachydermocrocodilian' —a collaged vision of many animals that answered ideological and personal impulses and knowledges. I use the terms 'monsters' because they are just that—odd constructed hybrids of social knowledge, individual agency, analogy to living creatures, and materially constructed at that. Moreover, even popular publications up to the turn of century typically continued to refer to these imaginings as 'monsters' ; the term 'dinosaurs' had yet to come into common parlance (e.g. Hutchinson 1900, 1893).

Monsters are, in Borges's terms "no more than a combination of parts of real beings" (1969). The dinosaurs of Hawkins, in so many senses, were precisely that, monstrosities, something which they remain today—visiting children see Brontosauroids and Stegosauroids, their adult guardians see "figments of someone's imagination". They were and are multiple blends of organic vision and technological construction, of science and fantasy, of the known and unknown, of mammal and reptile, of ancient and modern, of dragon and 'real' beasts, of education and entertainment.[11] Broderip (1847:327) wrote of the dragonesque in dinosaurs and ancient marine reptiles: "Yes dragons: not such as the small , living winged reptiles, that skim from place to place in search of their insect food…but downright enormous dragons with bellies as large as tuns and bigger…While this was going upon what passed for dry land, great sea-dragons rushed through the waves, or sported on the surface of an ocean."[12]

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[9] The evidence cited by Owen for associating his Dinosauria with crocodiles was the common presence of fused thoracic vertebra, a character palaeontologically identified with the group *Archosauria* of which dinosaurs and crocodilians are recognized to be members (Desmond 1976: Chapter One).

[10] According to David Norman's (1985, 1980) descriptions, *Iguanodon* was part-time quadruped, part-time biped.

[11] For a psychoanalytic description of dinosaurs as fact/fantasy monsters, see Schowalter, 1979:7-8.

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While they embody all of these alternate monstrifications, even in the scientistic discursive strategies deployed, the Owen/Hawkins creatures are constructed as monsters by virtue of the mixing of animal "archetypes" used to suit Owen's staged creation ideologies (cf. Desmond 1982:61ff). The Crystal Palace dinosaurs are—in the extreme and equally to the point—about the industrial conflation of bricks, concrete, paint, iron reinforcement, pastoral landscapes, railroads, greenhouses, zoos, scriptures, and illusions. They are wrapped in the luminously privileged cloak of science, however, to help fulfill the dream of vicariousness of a systematically understood past world. They were designed to give the impression of pure unmitigated truth carried out of the distant and otherwise 'impervious' past—a Lost World—to meet us face to face across the uncrossable barrier of implied oceans suggested in an inconsequential, practically ridiculous 4-metre artificial channel.

The visiting public would encounter these constructed beasts along with a variety of other prehistoric, but non-dinosaurian creature inventions. Several marine reptiles—*Ichthyosaurus*, *Plesiosaurus*, *Taleosaurus*—would "wallow in the mud" (*Illustrated London News* 1853), with the odd quadruped amphibian *Labyrinthodon* (presented in the form of a tortoise) and the creature *Dicynodon* lingering on 'shore' , flying reptilian *Pterodactyls* gazed down from a simulated cliff, and farther back from the reptilians, a great imagined *Megatherium* (giant ground sloth) was eventually placed "in the act of climbing an antediluvian tree".[13] The tree, long since having died leaving only a dessicated trunk in place, still appears today to hold up the giant sloth form amid the now lush surrounding vegetation. The grandest inventions, the largest of all, and the ones strategically positioned most closely to the path are the *Iguanodon* and the *Megalosaurus*.

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[12] The term "sea-dragons" had received some popular exposure in Thomas Hawkins publication Book of the Great Sea Dragons (1840). The quote from Broderip is also cited in Haste (1993).

This would have presented a highly unified world of monstrously strange beasts dominated by the great dinosauroids, but indicating a rupture between the civilized world of paths and crystal palaces and that of some mystified ancient time. Rudwick's main thesis in *Scenes from Deep Time* is that the public construction of the profound past is an "undifferentiated world" where all ancient beings lived side by side during a generalized "deep time" (1992:Chapter 7). There was nothing in the Owen/Hawkins presentations to suggest that all of the various prehistoric beasts—palaeontologically understood to come from different geographical periods—did not peacefully co-exist in a single bygone world.

In addition to the feeble attempts to suggest geological strata, the nomination "dinosaur" was not to be found at hand and would have been insignificant—these were beasts, monsters, creatures. *Iguanodon, Megalosaurus* and other such difficult names were the domain of high culture science, separating privileged scientific knowledge of Latin and Greek from the 'common' English of the visiting public (cf. Santos 1992). Though feigned as a "universal language" (cf. Hooper-Greenhill 1993:148-157), the limited accessibility of scientistic nomenclature to the public in this setting served this separation of high and low culture, of the empowered intellectual and the disempowered 'commoner' (cf. Bourdieu 1988). Though the wish may have been to providing an incentive to gain such linguistic capacity as a means of social-intellectual elevation, in this setting, the devices of such access were, for the most part, inconsequential.

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[13] Other creatures added to the simulated menagerie at the same time as the *Megatherium* were an extinct Pleistocene Irish deer and an Oligocene camelid (Glut 1980:25).

The emergent readings would be that of largely undifferentiated though institutionally authorized and highly intriguing monster bestiaries. Two cartoons in *Punch* (1855; see Rudwick 1992:148-151) project such readings in the popular press depicting people and the "Antediluvian" monsters in discomfiting encounters—one is of a reluctant middle class boy being lead through the fearsome monster realm by a grim erudite adult, while the other interposes images of the disturbing dinosaur monsters, with a "savage" and a pharaoh-like Egyptian haunting the dreams of a visitor at home in bed after a day at Crystal Palace Park.

Elite Politics and the Rhetoric of Truth

Prince Albert made the suggestion to Joseph Paxton — the original architect and an eventual shareholder of the Crystal Palace building — of displaying lifelike reconstructions of ancient beasts in the grounds of the park (Desmond 1976: 19).[14] Benjamin Waterhouse Hawkins was commissioned by the Crystal Palace Company to furnish the restorations to the adjacent grounds of the surrounding park. Having heard of Owen's work on giant 'antediluvian' fossil creatures, Hawkins proposed to recreate some three dimensional visions of these great beasts. Hawkins wrote:

> "I have only to add that my earnest anxiety to render my restorations truthful and trustworthy lessons has made me seek diligently for the truth and the reward of Professor Owen's sanction and approval; which I have been so fortunate as to

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[14] MacLeod (1965:262) pointed out, however, that since 1848 Owen had become "intimately acquainted with Prince Albert and the Royal Family, with leaders of the political clubs, and with the most distinguished prelates of the Anglican Church". This would have placed him in a strong position to influence the thinking of political powers on such matters as choosing which sort of natural history displays might be suitable for the Crystal Palace gardens.

> obtain, and my next sincere wish is that, thus sanctioned, they may in conjunction with the visual lessons in every department of art, so establish the efficiency and facilities of visual education as to prove one of many sources of profit to the shareholders of the Crystal Palace Company."(1854)

Hawkins, like his contemporaries, was self-convinced that Truth in science, art and education would become the vehicle for capitalist enterprise and for his patrons such as Paxton—an attitude that would serve him well in the coming decades as he made his way to America to design newer dinosaur embodiments (Desmond 1974).

Owen's (and Hawkins's) introduction of "Dinosauria" into the visual-verbal vocabulary of scientific discourse would have offered yet another field of imaginistic conquest. "Club time" conversations were fueling the exclusive camps of intellectual Victorians with straightforward considerations: dinosaur's gigantic character, their extinction, their relation to Creation, their British origin, the primacy of British science in their discovery, the potential they held for public marveling, the possibility of their post-diluvial existence somewhere in the uncharted colonies (from which reports of strange new beasts came regularly) (cf. Anderson 1989). The dinosaurs of Crystal Palace Park served as figurations of the ideological dreams of the contemporaneous social and economic relations of the Victorian elites. Owen acquired a venue for propagating his visions through the work of Hawkins, and the facilitation of Paxton, Crystal Palace Company, and the state.

A 'fraternity' of London intellectuals and bourgeois socialites networked together[15], having in common the Crystal Palace and the then society-vogue images of ancient creatures. For example, Joseph Paxton, in addition to designing the Crystal Palace, founded the tabloid *Daily News*, and hired its first editor, Charles Dickens (Beaver 1970:16). As Hawkins began to 'construct' the first dinosaur 'reconstructions' , Dickens wrote in Bleak House, "it would not be wonderful to meet a *Megalosaurus*, forty feet long or so, waddling like an elephantine lizard up Holborn Hill" (Dickens 1853). Dickens was an acquaintance of Richard Owen (Desmond 1982:41), as was William Thackeray (McMaster 1991:146). Thackeray went so far as to validate the 'men's club' dimension in association with prehistoric beasts, by creating the fictional club "The *Megatherium*".[16] These gentlemen's clubs of London—actual and fictional—were highly popular at the time permitting the well-lubricated interflow of elite opinion and idea, and the securing of knowledge-oriented power relations to be carried into 'official' life and action.

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[15] The masculine term 'fraternity' is suitable, as it was an almost exclusively male group, quite typical of the 19th century intellectual elites. I am here suggesting that the network which is apparent in this short discussion extends well beyond scientific circles, and includes the materiality of 'things'. It is embedded in wishful totalizing social

Even this little cohort points to the confluences of knowledge generation and reproduction among the various domains of science (Owen), visual technology (Hawkins) literature (Dickens and Thackeray), mass media (the *Daily News*), commercial enterprise (Crystal Palace Company), and the state. Trans-nationally, Prince Albert was networked to the European aristocracy, and thus could and did parade fellow royals proudly through the reified spaces of the Victorian imagination (Desmond 1976).

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formation of the time. For a thorough discussion of how 'technological networks' are imagined to operate, see Latour's *Science in Action* 1987.

[16] *Megatherium* was a 'giant' Pleistocene sloth, the remains of which have been collected in Patagonia. Darwin wrote about this creature in his journals of the voyage of the Beagle "their ponderous forms and great strong curved claws seem so little adapted for locomotion, that some eminent naturalists have actually believed, that, like the sloths, to which they are intimately related, they subsisted by climbing back downwards on trees, and feeding on the leaves. It was a bold, not to say preposterous, idea to conceive even antediluvian trees, with branches strong enough to bear animals as large as elephants"(quoted in McMaster 1991:146). This polyvalent comment by Darwin indicated his views on, among many ideas, the inadequacy (bordering on 'inanity') of 'antediluvian' conceptions of bygone worlds.

One of the Hawkins-Owen duo's greatest acts to secure themselves a place of primacy among the natural historical and cultural elite of the day was the 1853 staging of a singularly bizarre dinner in the belly of their prize monster *Iguanodon* prior to its completion. They assembled the great men of natural history—or at least magically invoked their deceased beings by setting out their names on placards[17]—plus a suitable array of patrons and elite friends, at the same time ensuring that the press were there to publicize the gathering. The *Illustrated London News* (1854) offered precisely the Truth-confirming rhetoric that Owen sought to communicate to an even wider intellectual elite, as he addressed the haughty gathering of "one and twenty" men from his position at the head of the table and, not insignificantly, at the head of the beast:

> "Professor Owen then took occasion to explain, in his lucid and powerful manner, the means and careful study by which Mr. Hawkins had prepared his models, and had attained his present truthful success; Professor Owen adding that it had been a source of great pleasure to him to aid so important an undertaking, by assisting with his instruction and direction a gentleman who possessed the rarely united capabilities of an anatomist, a naturalist, and a practical artist, with a docility and eagerness for the truth which ensured Mr. Hawkins's careful restorations the highest point of knowledge which had been attained up to the present period. The learned Professor then briefly commented upon the course of reasoning by which Cuvier, and other comparative anatomists, were enabled to build up the various animals of which but small remains were at first presented to their anxious study; but which, when afterwards increased, served to develop and confirm their confident conceptions—instancing the Megalosaurus, the Iguanodon, and Dinornis as striking examples."[18]

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[17] The spirits of Georges Cuvier, Gideon Mantell, and William Buckland, all deceased members of the genealogy of natural historical patriarchy, were invoked to lend the fullest sense of intellectual pedigree to Owen's person.

[18] *Dinornis*, perhaps better known as the Moa, was not presented, but invoked for the as a contributing act of self-valourization—Owen had described this giant ostrich-like fossil bird from New Zealand (Rudwick:144). Sightings of living Moas, all attractively unconfirmed, proceeded from the New Zealand colonies at about the same time, exampling the reach of mimetic knowledge reproduction into the realms of colonial cryptozoology (Anderson 1989).

The monstrous scientist-artist duo worked the cultural networks of knowledge legitimation to naturalize their monstrosities as pure characters, precisely what their creations were not. Devotee Hawkins was a wizard-visionary of public grandstanding and self-aggrandizing modesty in his ability to blend his knowledge with Owen's, to co-mix faithful science-facticity and imagination as culturalized nature and naturalized culture, to draw on all contemporary techno-scientific materials of public presentation, and to recognize that monsters were a most powerful vehicle to acquire access to circles of the powerful. The privileged occupants of the belly of the beast toasted the great patrons of their Truth acts—the Empress Queen, Prince Albert, the Managing Director of the Crystal Palace Company—and proceeded happily to gorge themselves on the remaining morsels of what the menu claimed to be dinosaurian delectables, issuing implicitly from the entrails of their fine, exclusively British, fully conquered and exquisitely invented creature-creation.[19]

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[19] The menu for the feast included dishes designating the use of dinosaur meat as an ingredient (*London Quarterly Review* 1854). The act of devouring the beast consummated this act of total human control through knowledge conquest of nature in its most beastly form. Up to that time, *Iguanodon* remains were only known from Britain, adding a sense of English pre-eminence to the whole proceeding.

Chapter Three

The Failure of Dinosaur De/monster/ations

Part Two: Monstrous Histories of Monstrous Power

> *...any serious study of exaggeration must begin and end with an investigation of the discourse of the childish, the feminine, the mad, and the senile.*
>
> S.Stewart 1984:172

Monster Talk with a 10 year old boy, 1992, Edmonton Canada[1]

I said: Well, how did you first get interested in dinosaurs?

He said: I think it was from a magazine I saw when I was a little kid. It had pictures of the Loch Ness monster.

I said: Do you think there is a Loch Ness monster?

He said: I don't know for sure, but I think there is one.

I said: There's one, you mean only one?

He said: Well yes, if there were two, there'd be many.

The Crystal Palace dinosaurs were really highly monstrous inventions of a select group of privileged nature/culture interpreters, placing extremely high values on the 'culture' in the mix, making them even more monstrous given the contingent and contestable character of cultural designations, including the cultural designations of nature with its component fossils and geological strata. The press, publishers, and presenters of mass cultural expression continued to use the term "monsters" when discussing dinosaurs. The monsters of Crystal Palace Park owed their monstrous status to multiple layering of blended characters, and were legitimated by scientific guidance and endorsement in their construction from a partially recognized 'nature' in fossils.

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[1] Peter Vetsch, the boy with whom I had this conversation, is a dinosaur super-enthusiast, exceptional in his interests compared with most other children in general and with other boys in particular. His knowledge includes a sense of the antiquity of dinosaurs 220 to 65 million years in age. Nonetheless, he felt that the Loch Ness Monster persisted in the Loch from the end of the dinosaur age to the present. We met when he was 6 years old. I was working on the Canada-China Dinosaur Project and he was working on a school assignment and display on armoured dinosaurs. The texts here are from a recorded interview with Peter that took place at his family's home four years later in October of 1992. Peter's sister Emma, two years younger than him, was also interested in dinosaurs when we first met. There were lots of dinosaur books around the house, most of them in Peter's bedroom. By the time of the interview, Emma's interests had waned, and she told me that she had become much more involved and interested in dance.

Through the Crystal Palace dinosaurs I am able to elaborate several conflated discursive, semiotic fields of dinosaur fascination. Dinosaurs were expressed in the theme park milieu, as entertainment and attraction, transformed into merchandise in the form of models and posters, newspaper lampooning, public wonderment and play (Rudwick 1992). Dinosaurs became objects and actors/actants of nature and science. A plethora of tropes were activated through dinosaurs—dinosaurs as exemplars of extinction, life and death, lost worlds, the animal other, Godly creation, as monstrous jokes of nature (cf. Haste 1993). The layering and subjective contingent intertwining of these multiple fields of semantic uncertainty or confusion were an attempt to articulate clear distinctions between savage nature and civilized humanity.

Below, I will consider some of these tropes as well as other contexts of dinosaur image and narrative exploitation, as part of a longer standing and continuing trajectory of knowledge presentation and reproduction. Looking into antecedents of monster fascination and extending into subsequent transformations and resituating of dinosaur discourses can provide a particular and meaningful introduction to the most popularized of all productions in dinosaur imagining, the 1993 film *Jurassic Park.* Spielberg's film sustains and intensifies many of the inaugurating aspects of conceptual-ideological boundary expressions found in the Crystal Palace dinosaur productions. Rising formations as cryptozoology, science fantasy and lost world literature, ape-human evolutionism, and narrative themes of gender and reproduction are part accidentally, part intentionally designed in the cultural spaces and times artificially bounded by these two theme park monster stories.

Dinosaurs and Colonial Techno-Illusionary Imagining

> *...[an] Optical Macheen, that shews by a gloomy Light upon a white Wall, Spectres and Monsters so hideous that he who knows not the Secret, believes it to be performed by Magic Art.*
>
> On the "Magic Lanthorn" in Atlick 1978:117

Several streams of cultural presentation and narration are confluent in the Crystal Palace dinosaur presentation project. Public amusement media situated in theme park or display facilities had been developing extensively for almost 200 years in London , and this trajectory has continued to the present in variegated fashion in several techno-industrial 'traditions'. Creationist-Evolutionary debate became a focal point in scientific communities, setting apart those that saw nature as a thing of fixity and those that saw it as a thing of mutability (cf. Bowler 1989; Irvine 1955). Colonial conquest continued to be a source of natural-cultural exotica which in turn could fuel the commercial imaginations of amusement attraction operators. Educational legitimation by zoos, museums, intellectual networks, the press and royalty would have lessened possible perceptions of 'crass commercial exploitation', by invoking the potential for socially-valourized intellectual improvement and cultural development.

The Owen/Hawkins dinosaurs were illusions with which the Victorian public had an overwhelming interest in and generated by the availability of compelling illusionary and diversionary experiences which offered a sense of vicariousness if not heightened immediacy, or unabashed thrill and horror. This was a working consumer society with increasing time and money on hand as a result, in part, of the excesses of colonial economic exploitation. The industrial or techno-illusionary entertainment-education 'complex' as it came to develop in London is well documented in Atlick's *Shows of London* (1978). In the midst of increasingly available multi-media displays, monstrosities, freaks, hybrids, alien others, the insane, the exotic, the caricatures of constructed humanness assured public draws in 18th and 19th century London. As Atlick points out, "...this widening mass audience was large enough and possessed sufficient purchasing power to encourage showmen to supply it with what it quite plainly wanted, which was amusement with blunt, immediate impact uncomplicated by thought or the tenderer feelings" (Atlick 1978: 34). Technologically generated illusions of other world, and giant, fierce-looking simulated beasts would quite adequately measure up to Atlick's specifications as "uncomplicated by thought or the tenderer feelings" whether or not we care to indulge his contingently constructed supply/demand economic visualizations. The dinosaurs of Crystal Palace Park benefited greatly by their technological affinity with the Crystal Palace Exhibition, "that apotheosis of the London Exhibition".

There was a gradual communalizing of the public exhibition throughout the 18th and 19th century, such that initial shows, such as the Eidophusikon which started out as financially accessible only to a monied elite, was eventually "made accessible, sometimes in modified form, to a wider public at a reduced rate"(Atlick 1978: 3).[2] In Atlick's view, the effect was to lower "the conventional barriers that kept class and class at a distance." The Eidophusikon—claimed to offer "various imitations of Natural Phenomena, represented by Moving Pictures" (Atlick 1978: 121)—itself was a version of the Magic Lantern, modified such that many people could experience the effects simultaneously in one viewing space. Entrepreneurs—and these were fully commercial enterprises—could commodify such public events readily by bounding them in architectural spaces. This resulted in the proliferation of curiously named media experiences, built into 'permanent' sites in and around London from Leicester Square to Picadilly Circus and Regent's Park, or temporarily deployed in the more itinerant venues of weekly street markets.

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[2] Also see Ames on the concurrent trends in museum displays toward popular domestication (1986).

The panorama, cyclorama, diorama, cosmorama, panopticon, Wyld's Great Globe all marshaled the public through spaces, viewing galleries, platforms before painted, projected, illuminated, or animated imagery, mostly of exotica, odd-perspective domestic views, and popular narratives from biblical or travel sources. Multi-media projection devices aided by aural and other sensory apparatuses became increasingly elaborate displaying all manner of illusion from geography to astronomy—the Phantasmagoria, the "Diastraxodon or Grand Transparent Orrery". Other attractions offered such mechanical and three-dimensional simulacra as Automats (mechanical human and animal figures) the "Microcosm" (a mechanically animated miniature city-scape with musical accompaniment). Bodily and mental health and morality were interleaved with entertainment as well in such experiences as "The Celestial Bed" (a pricey concurrent soft-porn virtual experience claimed to cure sterility), and afternoon visits to 'Bedlam', the London 'insane asylum' where the 'mad', written as moral decadents, could, for a small admission fee, be gawped at for amusement and moral reflection (cf. Foucault 1979:Chapter Three).

In its continuing life from 1854 to 1936, the Crystal Palace itself remained a key site for illusion-making, for pyro-technical spectacles, for feats of human achievement and physical prowess, for multi-media performances, and eventually for some of the earliest experiments in low power television broadcasting. Just as the Titanic could never sink, so in 1936 the iron-glass structure met its untimely and unlikely demise, consumed in a final act of spectacular irony in a great conflagration. The dinosaurs of the pleasure gardens, isolated away from the structure, were spared, their extinction more ensured by complete coding as inanimate lumps of decrepit Victorian industrialized, materialized imagination.

Dinosaurs were ideal illusions and ideological vehicles, presenting simultaneously in their embodiment the right narratives of monstrosity and attraction, the right authority of science, and the right characters of illusionary techniques. They were exotic in the extreme. They were focal creature-creations for bio-historical debate. They were materially founded in museological collecting programs. They were suitably freakish and they were giants. They were a near-perfect concurrent contradiction and validation of science's mission expressed so well by the *Illustrated London News* (April 3, 1847, see Atlick 1978:253) in relation to museums:

> " In olden times, Museums were, doubtless, receptacles for freaks of imposture, and thus they may have greatly extended popular error; in these days, such tricks are out of the question, and every wonder monger must dread the detective police of enlightened public opinion."

Another highly salient trajectory of knowledge production into which dinosaurs fit was that of 'monster-mongering' (cf. Atlick 1978: 35ff.). With such a range of socio-political buttons to be pushed, a remarkable diversity of subjective public interests could be catered to and manufactured, a 'way-in' to monstrous discourse could be offered to each knowing subject but differentially favouring narrative access to some, and resisting access to others. This semiotic, psychical, socio-political synergism provides a partial accounting for the rapid and continuing popularizing of dinosaurs (cf. Torrens 1993; Haste 1993; Schowalter 1979; Gould 1992, 1993).

This "co-evolution" of evolutionary thought, simulacra, and monstrosity, and commodification of exotica with the promise of high profit would have the kind of self-propulsion so characteristic of successful colonial capitalist enterprise systems. Dinosaurs-as-commodity provided and still provide, as the Comaroff's put it "an order of implicit signs that structure conventional ways of seeing and being," (1991:314). They also emerged in the more magical sense intended by Taussig, whereby the constructed dinosaur as copy can draw "on the character and power of the original, to the point where the representation may even assume that character and that power" (1993:Introduction). The character and power in these nature/culture inventions become twofold in this case: part earthly giant reptilian power from recognized though incomplete fossil assemblages and power to be exploited in the interests of empire (more like Taussig's view), and part ideological subjective power from the social and self-identity imagining of Owen, Hawkins and their nexus of socio-political, discursive cohorts (more like the Comaroffs's view).

The "order of implicit signs", however, has a dimension that is coded mutely. There are many critical silences, the highly present but voiceless Ones. The generalized "Other" semiotically designated in the Crystal Palace dinosaurs acts to entail all otherly subjects constructed in Victorian England and Europe—primitive aliens, animal aliens, women as aliens, racially marked aliens—all of them overcome by their privileged Victorian inventors—civilized, educated, white, European, men who write and reinvent the conquered, gagged Other over and over *ad nauseum* (cf. Williams 1991, Ritvo 1987, Mukerji et al. 1991, S. Stewart 1984).

Monstrosity, Giant Things, and the Coming of Big Science

> *If the giant is not a machine, "he" is yet an object narrated from an increasing distance in the sense of both time (the contemporaneousness of legendary giants becoming the giants of prehistory) and space (the transition from the vernacular giants to the giants of mass spectacle).*
>
> *The consumerism of the miniature is the consumerism of the classic; it is only fitting that consumer culture appropriates the gigantic whenever change is desired." "And while our daydream may be to animate the miniature, we admire the fall or the death, the stopping of the giant.*
>
> Susan Stewart, *On Longing: Narratives of the Miniature, the Gigantic, the Souvenir, the Collection*, 1984:172 & 86 respectively.

Dinosaur presentation from its earliest mass example with the Crystal Palace Dinosaurs can easily be seen to be situated in complex historical trajectories of British and European dragon/monster/gigantism discourses. Dinosaurs as giant beings, like dragons, present a curious selectivity for public amazement. Borges speaks of the dragon, "We are ignorant of the meaning of the dragon in the same way that we are ignorant of the meaning of the universe but there is something in the dragon's image that fits man's imagination, and this accounts for the dragon's appearance in different places and periods" (1969:16-17). Since the introduction of dinosaurs into public-scientific discourse, dinosaurs have taken on the status of modern dragons, along with such polyvalent Western semantics of dragons "as a symbol of sin; they are associated with chaos, destruction (by fire or poison), desecration and the abduction virgins", and with "the guarding of treasure" (Haste 1993:353). Their scientistic credibility accords them an "image that fits man's imagination" by extending received cultural authority into this highly transmutable discursive element. Dinosaurs occupy a transformational imagistic/narrative domain that parallels the trickster beings of non-western traditions and, to cite a further example, the mutable monkey trope in Japanese society (Ohnuki-Tierney 1991, 1987).

The antecedents of boundary-located fascination in the form of non-dinosaurian, or perhaps better expressed as dinosaur-equivalent, monsters and other-worlds are myriad. The first palaeontological example of the veracity of sea monsters was the *Mosasaurus* skull and skeleton discovered in Maestricht, Belgium late in the 18th century which became embroiled in matters of Napoleonic conquest and was eventually brought to the *Jardins des Plantes* in Paris to the attention of anatomist, progressionist, extinctionist Georges Cuvier (Desmond 1976: 9). Shortly after this specimen made its way into the circles of scientific discourse, collectors such as William Mantell, Mary Anning, and Thomas Hawkins found fossil bones of similar marine lizards in Britain (Desmond 1976:Chapter One). While all of these collectors and interpreters sought to place such beasts into the order of natural things—to de/monster/arte—the languages used to describe the beasts, as 'sea monsters' and 'sea serpents' presented direct affinities with reports issuing from sea travelers about giant sea-going beasts and monsters—"hydras", "kraken", "sirens", "basilisks", "amphisbaenas", the biblically monochered "leviathan", and several sea-hybrids as "sea-hare, -lion, -monk, -bishop, -mouse" (cf. Cohen 1970; Borges 1969; Robinson 1961). In public terms, the common territory of frontier exploration—that is frontier as in geographic, temporal, and knowledge frontiers—would accord science-favoured prehistoric beasts an affinity with any of these other science-discounted monstrosities. The freakish embodiments as cultural Other marked out the edges of knowledge of all aspects of the space and time:

> "The body of the cultural other is by means of this metaphor [the freak] both naturalized and domesticated in a process we might consider to be characteristic of

> colonization in general. For all colonization involves the taming of the beast by bestial methods and hence both the conversion and projection of the animal and human, difference and identity. On display, the freak represents the naming of the frontier and the assurance that the wilderness, the outside, is now territory." (S. Stewart 1984:109)

The impact of affirming that such monsters did once live (and so attempting to officially discount monstrosity), in creationist, evolutionist or transmutationist terms, would have been significant, having the effect of proving the validity of then self-assured claims of humanistic power to know all, and also demonstrating the capacity to dominate 'nature' through this faculty of knowing. Zoological parks and museums with selected, enclosed and descriptive displays would act to reinforce this self-assurance, while securing a sense of otherness in that which is displayed (Ritvo 1987:232-8). In dialogical terms, the communication between visitors and 'specimen', zoo enclosure, museum cabinet or artifacts/specimens, achieved the discursive opposition between civilized 'self' and 'other than self'—read 'less than self'. Knowledge, or mind in the Cartesian sense, was the pre-eminent instrument and agent of the multiple purpose of identity marking, colonial expansion, moral development, and in transformation of the uncivilized into something more civilized. Bodies were the object vessels mobilized to carry out these concurrent acts of wholly constructed and industrially effective justice (cf. Comaroff and Comaroff 1991).

This deployment of monsters and monstrous experience—with such alternate scholarly designations as "anomalous animals" (Douglas 1966, 1989), experience "betwixt and between" (Turner 1985:161), "hybrids" (Latour 1993; Ritvo 1987:235), "imaginary beings" (Borges 1969)—is culturally and historically relentless. All societies have 'beings' which cannot be securely placed in any single or strictly bounded category of animal (Willis

1989a, Douglas 1989, Mundkur 1983). Foucault describes the modern project of natural history "as nothing more than the nomination of the visible." (Foucault 1970:130). Those beasts that do not fit regular notions of categorization, which are beyond or transcend the boundaries of nomination are assigned special indeterminate, arbitrary status as monsters, tricksters, anomalies. Meurger's (1988:49) naturalizing, folklorical description writes monster as "a living being which is not necessarily malformed in relation to the laws of nature, but which is not normally a part of our understanding of the natural world." Even scale beyond what is 'normally' expected would constitute monstrosity—an especially large fish caught by an angler could be designated as a real 'monster of a fish'. The easy transformation from gigantism as monstrosity to dinosaur a monstrosity is exampled in the Chipewyan syncretic adoption of the term "dinosaur" in the 1950s to describe local traditional tales of "Giant Fish" who known to capture and devour people who have done some moral wrong to others (Sharp 1988).

As suggested by Susan Stewart, in the Western material-literary tradition, while miniature things are keepsakes enabling a look with yearning nostalgia to the personal, graspable, containable, the classic known world of individual subjective engagement, gigantic things are in the realm of public spectacle, marking out aspects of collective dreams and a looking forward that is implicitly only to be achievable by the 'many', the powerful, the state (1984:171-3). She points out:

> "to speak of the giant is to take part in the fiction of an authentic body. the giant, its superfluousness, its oversignification, its simultaneous destruction and creativity, is an exaggeration or lie regarding the social status and social integration of the subject."

Littleness becomes the domain of the subject who may not, on her/his own, achieve access to the big—it is the realm of the personal and the marginal and is so often coded as feminine. Bigness becomes the domain of the many subjects, and therefore of those who have power over the many subjects. The construction of dinosaurs has, correspondingly, been an act of the powerful, the progressively-minded, and typically, of and associated with the masculine.

Elite Victorian contemporaries were well-acquainted with and fascinated by giant phenomena as metaphors for their giant world colonial enterprise. Elephants and whales share massive size in common with dinosaurs. Big was better, or at least offered a terrain for empowerment, whether it was machine (eg. steam engines and locomotives), an international trade fair (eg. the Great Exhibition with its Crystal Palace), an extinct mammal or reptile (e.g. *Megatherium* or *Iguanodon*), 'big top' circus attractions (eg. the great elephant "Jumbo" bought from the London Zoo by Barnum and Bailey for their "Greatest Show On Earth"), or giant 'evil' whales (eg. Herman Melville's *Moby Dick*).

With their dinosaur-monster beings, Owen and Hawkins demonstrated that nature, even in its most gigantic manifestations, is conquerable. Their knowledge and presentation technologies situated with the wondrously gigantic Crystal Palace celebrated the conquest over big Nature by semiotically bigger techno-architectural achievement. They celebrated the progression toward that later-to-be modern world monster "Big Science" such as the Manhattan project, particle accelerator projects and the human genome project (cf. Price 1986).[3] Entailing big nature, like and with big technology offers the hope of big results and big knowing for those with and who wish to secure big power.

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[3] I use the term "modern" here and elsewhere in these essays as an uncertain descriptive, acknowledging Latour's contestation "We have never been modern" (1993).

Implications of greatness and gigantism have been associated with dinosaur presentation through to the present. Examples include mega-industrialist Andrew Carnegie's act to seed major world museums with casts of the world's longest dinosaur *Diplodocus* starting in 1905 (Krishtalka 1989); Chicago's 1933 Century of Progress Exposition and its theme park display of dinosaurs supplied by the then-huge Sinclair Oil Company (Glut 1980:34), emulated by Sinclair three decades later in *Dinoland* which was part of the 1964-65 New York World's Fair (Glut 1980:39-45), and those then removed to Disneyland in 1966; Spielberg's blockbuster film *Jurassic Park* with its imaginary unsurpassable island theme park; and the Ex Terra Foundation's travelling dinosaur exhibition (1993-94) which appropriates and plays on the Barnum and Bailey metaphor of the ultimate travelling show "The Greatest Show Unearthed".

The coincidence of grand vision with political support is noteworthy. To conquer the grand in scale is to be the leader, is to conquer the world. To be the leader, on the scale of IBM or Exxon, is to secure a position by means of mobilizing massive capital 'ahead of the competition'. The great age of expansion of western capital[4], the Victorian Industrial Revolution, was the age of 'gigantism' and its correspondent conquests. The symbol of bigness in steam engines, glossed that Britain could produce the most vast quantities of products for international trade by virtue of sheer mechanical scale, at least in symbolic terms. By acquiring the biggest of elephants, Britain could indulge the national ego in its belief that it was the apex of 'civilization', capable of retrieving and withholding even the mightiest (and fiercest) of beasts (cf. Ritvo 1987:232-4). By confining, domesticating, and presenting the most alien of beasts—dinosaurs and other ancient reptiles—Britain could claim primacy in its conquest and explication (entailment) of nature (extending to its logical limits, the dreams of their 'native son' Francis Bacon). By having the most powerful locomotive, Britain and soon America could extend its influence all the more forcefully into the farthest reaches of the known, and progressively colonized, world. While Ahab and Ishmael were doing their manly deeds of vanquishing the most powerful bodily manifestation of life on earth (Moby Dick), the 'enlightened' mind of capital was proving its supremacy on the island homeland in zoos, enormous exhibitions, and in natural history displays. All these various controlled gigantics and monstrosities mark out the dominant narratives of conquest of Nature, constructed and coded as woman, by Culture, constructed and coded as man.

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[4] An age that seems not to have ended though claims are made that we are in the period of "late capitalism". See various publications of Wallerstein, Haraway, Hall.

Monstrifications, De/monster/ations, and Mimesis

> *Monsters and monster men he shall engage.*
> 1690 DRYDEN Amphitryon V. i,
>
> *The anatomist demonstrates, when he points out matters of fact cognisable by the senses.*
> 1856 DOVE Logic Chr. Faith Introd. Sect.2. 2 note,
>
> *You worship your own selves, and make your gods a monstered self.*
> 1877 BLACKIE Wise Men 95
>
> On-Line *Oxford English Dictionary*, 1994, re: "monster" and "demonstrate".

It was the project of Owen and Hawkins to demonstrate the efficacy of their dinosaur presentations, and in effect to demonstrify these visions. Among many definitions, the Oxford English Dictionary indicates that DEMONSTRATE connotes the act to "describe and make plain by help of a specimen" or "to establish the truth by a process of argument or deduction".[5] MONSTER suggests something quite opposed ranging from "something marvelous", "an animal [deviating] from the normal type"; "an imaginary animal", often having "great size and ferocity", and especially those beasts "victoriously encountered by various mythical heroes". Additional connotations for monster include the suggestion of great force or power when used in combination as in 'monster-eating man'. But in some earlier usages, the two terms, "demonstrate" and "monster", become less oppositional, more synonymous where "To exhibit as a monster" is "to point out something wonderful". The etymological sourcing of 'monster' is from the Latin *monstrum* something marvelous, originally a "divine portent or warning" from the root *monere* to warn.

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[5] These connotations are drawn from the "On-Line" *Oxford English Dictionary*, June, 1994.

In relation to the public dinosaurographies, these two confused terms mark out a synchronized, schizophrenic impulse, a terrible tug-of-war, to demonstrate or de/monster/ate and at the same time, to monstrify. This basic contest has ever remained the compelling attraction in all manner of dinosaur presentation: this is the allure of the unknown and frightening with the security of the known provided by the highest authorities of social sanction. The attempted naturalizing by Owen and Hawkins of their dinosaurs had the semantic effect that the supposed creatures were tamed, domesticated, conquered, captive, and under their control as knowledge arbiters. Meanwhile, their inescapable monstrifying by means of image-blending and situating in what amounts to public amusement and ideology park, is an equally pervading effect . As scientistic anatomically described, taxonomically transfixed lost world animals of pure knowing, they act instead to reassure us that someone 'up there'—Victorian God in heaven or His rising surrogate, the Man of Science in the elevated halls of the Academe—is keeping the world safely in order, taking care of His flock, insisting upon "a place for everything, and everything in its place".

The dinosaurs as monsters or boundary beasts—their only truly engaging character to knowing subjects who commune with the world only at the subjective interfaces (i.e. boundaries) with the world—act to entice us, tickle us, give us the delightful sensations of horror and uncertainty and a wish to co-mingle with their wonder (cf. Haraway 1992, Lenoir 1994). Michael Taussig's (and Walter Benjamin's) invocation of the mimetic faculty as "the compulsion to become the other" (1993: xviii) marks out an ineffable zone of "traffic" between sameness and differentness—a territory of monstrosity—which is clearly potent, generating wonder—in short the location of fascination. The recognition of monsters is at least an incipient means of activating fascination, and fascination can be read as something more and less than the wondering engagement with hybrid knowledges, as opposed to highly naturalized pure knowledges which modernist science has long pursued in vain (cf. Latour 1993).

However, the capitalist commodification of fascination in the form of dinosaurs presents a possible unraveling, undermining, de-fascinating, or at least detour away from the monsters. It fixes bounded fascination into the mechanics of reproduction—immediate impact is evoked, but the demand to push another body through to another commodifiable site/event/simulacrum forces loss of immediacy and generation of an anxious sullenness, a desire for some quick new alternate alterity (cf. Borgman 1992:12ff). Pure dinosaurs—an oxymoron—would have been innocent of such constructions and diversions; it is the monstrous dinosaurs—that is, all dinosaurs—who are in collusion with their makers and of whom we must be wary.

So monsters, those beings of possibility and indeterminacy, have long proliferated in response to manufactured demand, instant experiential replacement, and the systemic flow of capital by means, and through the hands, of labour and the rising middle class, the spectacle-visiting public. The creative wonderment inherent in the lingering and focalized mimetic faculty—something quite matter-of-fact in societies where liminal engagement is honoured and attended to with great care and respect (Turner 1974)—is intentionally attenuated by those who seek continued progress, material development, territorial expansion, and investment return.

With such a weighty and avowed capitalist progressionist socio-history of monsters as antecedent, the attempts at Crystal Palace park to invent a pure naturalized dinosaur understandably would be expected to meet with failure. Owen, Hawkins, their influential colleagues, and the press spoke the rhetoric of pure knowledge, purely understood natural creatures, essential categories of knowing, yet we see clearly now their resulting expressions as astounding hybrid productions, freaks, monsters given life almost wholly by their socio-political and epistemic situatedness. Their failure to make their dinosaurs natural kinds—to demonstrate and wishfully de/monster/ate their visualizations—might not have been apparent given their highly reified counter-narrative of purity and Truth, at least in part a constructed conceptual continuity with Biblical Truth-sourcing to which Owen was clearly prone (MacLeod 1965, Desmond 1982, Torrens 1993, Rudwick1992).

Dinosaur Genderations and Limiting Access to Monstrous Power

> *They too are gone, and their death reminds us of the meaning of life.*
>
> Dale A. Russell 1977.

> *We have gone down a road, looked under a bush and come face to face with ourselves.*
>
> John Noble Wilford 1986.

In all the public and scientific literature on dinosaurs, I have never read such words as those of Russell or Noble Wilford written by women, only by men.[6] Dinosaurographies and the productions/reproductions of dinosaur imagery describe a nearly exclusive male/masculinist domain. Consequently, the face seen under Noble Wilford's bush understandably will be the face of 'man as dinosaur', the meaning of life Russell is reminded of is the meaning of the 'life of man'.

An important semiotic aspect of the Crystal Palace dinosaur imagery is what is implied in the elisions of life and procreation, silently coded in absences of signification—absence of movement, of behavior, of sex/gender , of offspring, and the concurrent omission of reproductive possibility, something that would act to reassure a visiting public that these beasts, while menacing-looking were basically harmless, basically finished, stopped giants. They have no future, no past, no dramatic color, no gaze back to the viewer. Men created these beings to keep them in their place in time and space. Woman, sex, reproduction is omitted from this picture—Creation was up to God (and up to man in his secret times of writing and visualizing), a done thing.

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[6] Of course, this is a direct effect of the predominant role historically of men in the invention of dinosaur image and narrative, both public and scientific, which is part and parcel of my point. The history of dinosaur research and presentation reads as a nearly exclusively male participant story. Until women and those historically, politically coded "other" have their monster discourses and dreams written, visualized, and disseminated in local and global mass terms, there will remain an inordinate degree of white, Euro-American masculinist perspective in the public-scientific imaginings of dinosaurs and other monster-hybrid power narratives.

All of this implicit coding by Owen and Hawkins developed out of the multiple, historically- and culturally-informed male-embodied agendas they sought consciously or unconsciously to espouse—scientific positions, theological concerns, visitor amusement value, artistic expression, sustaining and increasing social position. By contrast, in zoos, there was always the risk that the creature could behave with some degree of animal will, say by displaying apparent affection or biting or some other unpredictable action. Indeed, animals in zoos could potentially mate in public, suggesting the reproduction of their ilk. In a way, these dinosaur monsters were much more predictable—no biting, no breeding, no motion, no change. A fundamental aspect of giant-slaying in the sense of Western Christian sense of St. George's conquest, is not just to kill the beast, but to end its kind and save others from the dragon's harm, to control all possibilities of regeneration by terminating the possibility of reproduction. Extinction as a metaphor for finality in the Creationist/Diluvial natural history of Owen offered the fullest promise of finality.

This theme of reproductive control, quietly coded into the Crystal Palace dinosaurs, is one pointed out by Evelyn Fox Keller (1992a:49) as a consequence of a familiar "male fear", seen in the story of another well-known monster:

> "Frankenstein is a story first and foremost about the consequences of male ambitions to co-opt the procreative function, and an "implicit critique" simultaneously of the plot and the birth that are conceived without women…In popular fiction, the ambition of male scientists to produce life almost invariably results in the unleashing of destruction, that is, in death".

Keller (1992a:51), adding to the observations in Mary Jacobus's paper "Is There a Woman in this Text?" (1982), points out a similar elision of "both the real and the symbolic woman" in the Watson and Crick story *The Double Helix*, where the "secret of life" (i.e. the secret of reproduction) dissolves all bodies and replaces them with "the simple mechanics of a self-replicating molecule". She goes further to point out that the story absents "mothers" from the tale, and in doing so, its male authors discount and devalue life and the place of woman/women in reproduction. She continues on this point of disembodiment, "In this surrogate world, a world that may have originated (in fantasy as well as in reality) as a world with only one sex, there is finally, no sex." Haraway has expanded these points and their implications further in her comments:

> " [Fights over reproductive politics] are also carried out in the images and practices of scientific and technological research, science fiction film, metaphoric languages among nuclear weapons researchers, and neo-liberal and neo-conservative political theory. Reproductive politics provide the figure for the possibility and nature of a future in multinational capitalist and nuclear society. Production is conflated with reproduction. Reproduction has become the prime strategic question, a privileged trope for logics investment and expansion in late capitalism, and the site of discourse about the limits and promises of the self as individual. Reproductive "strategy" has become the figure for reason itself—the logic of late capitalist survival and expansion, of how to stay in the game in postmodern conditions. Simultaneously, reproductive biotechnology is developed and contested with the large symbolic web of the story of the final removal of making babies from women's bodies, the final appropriation of nature by culture, of woman by man. (Haraway 1989:352)

The ultimate case of the masculine-generated cultural salience of reproductive control tropologies associated with dinosaur creation and destruction was explicitly provided in Michael Crichton's and Stephen Spielberg's respective book and film productions *Jurassic*

Park.[7], where a team of male technologists 'reinvent' dinosaurs from ancient DNA. The role of women is these public spectacles is that of secondary, nurturant rescuing or patching up of male mistakes in this act of appropriated creation.

Once again, there are highly potent visual-narrative antecedents for this theme of man dominating woman as nature. The male voyeur / penetrator / controller of a female/feminine coded nature reaches back to Bacon's view of nature who "betrays her secrets more fully when in the grip and under the pressure of art than when in enjoyment of her natural liberty".[8] A similar theme is exampled in the case of William Coneybeare's pictorial vision-cartoon of anatomist and early dinosaurian researcher William Buckland entering a cavern dream world of prehistoric hyenas—the fossils of which Buckland had studied (Rudwick 1992:39ff). In the image, a caricatured Buckland enters the cavern holding aloft a lantern illuminating the snarling hyenas that reside in this hidden underworld of the earth. Martin Rudwick, rhetorically skirting yet implying the erotic interpretation that is so apparent in the image, writes "That cartoon's magical or fairy-tale quality highlighted the problematic character of the act of penetration, as well as the sense of wonder that its achievement evoked…it was an act of 'spying,' as it were, through a keyhole, into a prehuman past that was otherwise inaccessible to human experience". The symbolism of earth/cave/womb/woman seems easy enough to derive, even that the realm is unknown as it is hidden — but the supplicating, the conquest, the penetrating is the action that offends most.

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[7] See Chapter/Essay Four in this volume "The Lost and Manufactured Worlds of Jurassic Park".

[8] Francis Bacon's "Thoughts and Conclusions" 1653 *The Philosophy of Francis Bacon*. (see Zwicky 1992:93). Also see Keller (1992a:57).

The layering of metaphors of "penetrable secrets", nature and earth as woman, lost fantasy worlds, and the act of peeping-tom voyeurism, is entirely consistent with critical feminist discourses that attempt to destabilize male/masculine domination narratives (cf. Beer 1986:212-43), as articulated in Betty Friedan's succinct metaphor "the feminine mystique". Woman is rewritten in all these instances as mysterious, attractive, potentially dangerous, inaccessible and with that desirable, knowable, conquerable to those other than woman who wish and have the power—i.e. man as society and as science—to have her surrender her hidden secrets up to him.

Where Rudwick reads the cartoon Buckland "penetrating the epistemic barrier between the human world and the prehuman" (1992:229-30), the extended figuration is that the human world is that of man, the pre-human mystery world of woman and the epistemic barrier is transgressable only in one direction of oppression, that being from the human-male to the prehuman female. It is a wholly constructed barrier here in this and so many other cartoons to follow in the trajectories of prehistoric creature narratizing and visualizing, including the monsters of Owen and Hawkins at Crystal Palace Park. By following this straightforward interpretive path, the island verisimilitude of the Crystal Palace constructions becomes impenetrable secret woman nature, the surrounding channel becomes the epistemic barrier between man/culture and woman/nature, the domesticated monsters become the world of the feminine brought under man's control—tamed, disempowered, such that their otherwise fiercely threatening and unpredictable character visible in their now-frozen menacing embodiments, can never be released upon civilization. St. George, Dr. Frankenstein, Coneybeare and Buckland, Owen and Hawkins all eventually fantasize in their own ways the stopping of invented monstrous Nature, thus saving Mankind from the threat that She will carry on, through her monster-apparitions that man has invented, in engendering further generations of Her horrifying progeny.

A 10-year old child in 1992 utters all there is in an unfortunate but not entirely hopeless history of monstrous science as he unwittingly notes of the Loch Ness Monster "if there were two, there'd be many". Even that seemingly innocent comment embodies the entire tropo-histories in monster/lost world discourses of inventing man-culture's control of woman-nature in ways of knowing, in domains of power, and finally in bodily production/reproduction. Truth in this fiction is known by, and power given to those who dedicate themselves to the material practices of science and attendant nature-knowledge conquest. As exampled by the Crystal Palace dinosaurs, in this fantasy, the civilized public can avail themselves of this Truth by travelling and paying to witness the elaborate, collaborative inventions of God-Man-Scientist-Industry-State-Commerce, the multiple sanctioning network of self-invented, self-justifying Earth-Woman-Probing authorities and transcendent powers.

Literal Embodiments: Controlling Access to Monstrous Power

The mass-culture monster-dinosaurs of Crystal Palace Park stand out boldly as key embodiments of Western narratives of domination. As creature-monsters, hybrids, anomalies, they generate a pervasive uncertainty that is alluringly, terrifyingly fascinating to most who encounter them. Yet, situating these narrative-tropological beings in their constructed 'habitat' of engendered, colonial, theme park, nature/culture, commodification discourses reveals the oppressive character of their closer-to-true nature/culture.

Time/space, nature/culture contextual visualizing of the Owen-Hawkins colonial dinosaurs exposes a hideous social control over who may or may not readily sustain their engagement with monstrous possibilities beyond initial fascination. In the descending spiral of privileged knowing and granted authority to create/write/present knowledge—the now well-known hierarchy one more time—after God, it is civilized man the self-imagined pure scientist supported by his faithful artist/technologist/political cohorts in state-sanctioned patriarchy who comes first, followed by common aspiring-to-be-civilized man who is made to recognize the technoscientistic inventions of the civilized pure scientist as objects of attractive power. Commodified monster fascination becomes the dangling carrot of civilized improvement, the marginalized others and the marginalized masses kept plodding forward in futile desire, while the empowered rider reaches his always-imagined destination of a glorious future. In this reading of the dinosaur-monster allegories, the nature/culture subservients are written to be women, savage nature, savage humanity, the working people—all tacitly present as object resources for privileged man's divinely, stately sanctioned political, social, intellectual, economic advancement.

The political implication of such insidious narrative-tropic practices and manifestations is the foreclosing of access to potent hybrid knowledges—which all subjects do create but whose knowledges are resisted entering into privileged discursive territories—by veiling it as purified knowledge domains and, therefore, made to be accessible only to those who are socially valourized as pure knowers, especially man-the-scientist. As an ultimate knowledge purifier, Sir Richard Owen is simultaneously the ultimate monster-inventor, usurping this wondrous participatory power domain for himself and those who would emulate him in doubtful, rarely successful attempts to follow his path of ascendancy to privileged knowing.

What Donna Haraway (1992) presents as the contemporary "promise of monsters" would be a rich but appropriatable promise in the context of 19th century Victorian London. In her subject-concerned, radical feminist, partial perspective fiction, as in the nature/culture fictions I am presenting in relation to dinosaur-beings, monsters occupy boundary territories. The promise in monstrous fascination was made available to participants in colonial science and society through the proliferation of monster, freak, bestial nature, savage human, and technoscience illusion-making. Such fascination was always enticingly proffered and then, before sustained monstrous engagement could become dangerous to the social order, public fascination was diverted away by a seemingly endless stream of alternate commodity enticements. The context of 1850s monstrosity was such that the full promise could not be realized by women, colonized non-westerners, nor practically all of the working population. However, the miraculous ongoing transformative capacity of beasts of hybrid knowledge—like monkeys in Japan, or the ubiquitous tricksters in so many small-scale non-Western societies—is also part of their promise. In the years since the Owen-Hawkins project, dinosaur-monsters have continued to prove themselves as highly potent sites of continual hybridizing transformation. Their promise continues as these transmogrifications continue, waiting for new conditions—conditions that may be upon us in the imagined post-colonial, post-modern, late capitalist, and wishfully post-patriarchal worlds of the late twentieth century.

Chapter Four

140 Years in the Making
The Lost and Manufactured Worlds of *Jurassic Park*

If we dig precious things from the land,
we will invite disaster.
Near the Day of Purification, there will be cobwebs
spun back and forth in the sky.
A container of ashes might one day be thrown
from the sky, which could burn the land
and boil the oceans.

"Translations of the Hopi Prophecies sung in the film *Koyananisqatsi—Life out of Balance*" (1984) directed by Godfrey Reggio, music by Philip Glass.

The United States may be slipping as a world leader, but it is still number one in dinosaurs.

Don Lessem, "The Truth About Dinosaurs" in *The Kings of Creation*, 1992:20.

There is a richly colored narrative that sets the freedom of and communion with Nature against the control and exploitation of Nature by means of culturally-generated technology. Modern Primitivism, that curious twentieth century urge of subjects in affluent techno-industrial societies to get close to the "Primitive Other" has seen a remarkable upsurgence in these final two decades of the millennium. Embodied in the Western popularized symbolism of fourth world peoples (Aga Khan et al. 1987) are implications of a non-destructive, sustaining, non-developmental "simple-life" relation between human subjects, their communities, and what is written and recognized by modern primitives 'back home' to be truest nature (cf. Torgovnick 1990). Part of the contemporary condition is to read death and life, destruction and salvation, as narratively and tropologically caught in continual struggle.

Dinosaurs, as the grand example of once-flourishing but now extinct beings, and the attendant public fascinations with associated tales, have served exquisitely to both express and reify this pervasive contest between demise and regeneration. Their extinction stands as embodied trope of the vengeance of nature against the most powerful beings of nature—self-assured power in monstrous embodiment is insufficient to secure a safe place against unpredictable, ultimately powerful nature. Though dinosaurs are nature, there is a bigger nature with which they must contend and its principal force named by science is "adaptation". The story is well-known—the dinosaurs lose the battle, just as we humans may lose the battle. In such a metaphoric world, dinosaurs *are* us in their particular propensity to be non-adaptive, and so we must watch out for nature's vengeful counter-attack if we are to survive. Entering into these dinosaurs-as-us embodiments are multiple codings not just of nature and culture, of science and technology, but also of race, class, and gender.

However, a refiguring of this simple dinosaur-extinction/human-extinction correspondence has arisen as a counterpoint or parallel in the past 25 years, with attention in the dinosaurographies shifting to the biological success of dinosaurs witnessed by tales of their 160 million year presence on the planet, and in the scientific imaginings that dinosaurs are still with us, transformed by the magic of evolution, into birds. Monty Reid of the Tyrrell Museum of Palaeontology speculated "Perhaps this recent shift in emphasis reflects a sociological shift as well, from the fatalism of extinction to the numbed desperation to succeed" (1990:10). But "success" then becomes the contested territory in this apparently desperate project. What counts as success—survival, longevity, reproductive autonomy, reproductive control, body size, diversity, power to conquer, animal instinct, "free Willy" nature, small brains, monstrosity, purity, inventing dinosaurs that do/don't reproduce? The Stephen Spielberg film*Jurassic Park* plays on many of these contests, in the end proving itself to be no grand post-colonial moral transformation, but rather a literal vestige of the first major public dinosaur presentation, the colonial commodified fiction-world of the Crystal Palace Park dinosaur-monsters.

In this chapter, I will be using the narrative and semiotic world-making of the film *Jurassic Park* to expose some of the important trajectories of nature/culture knowledge formation that partially construct this, the most massive public phenomenon both in the history of film and in the history of dinosaur imagining. Using the film's story-progression as a structuring device, I will offer my own "partial perspective"[1] reading of several scientistic-public literary figurations that contribute to this elaborate and disturbingly entertaining filmic production.

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[1] I borrow Donna Haraway's construction of "partial perspective" from her essay "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective", chapter nine in her *Simians, Cyborgs, and Women* (1991:183-201). Each subject writes and constructs meanings from a situation which insists that there can only be partial views. Levi-Strauss, though without any political conviction and speaking from a position of academic male privilege, illustrated this point in his essay "Do dual organizations really exist" (1963), where members of different clans in a Melanesian community presented extremely divergent perspectival maps of community living shelter plans—the less privileged clan drew maps of their situation as on the village circle's periphery suggesting the other clan to be in a position of centrality and power, while the more privileged clan drew a plan that divided the village into two semi-circles suggesting graphically political parity. In Haraway's politically-focalized perspective, views by those who are subjugated—e.g.. women, people of color, oppressed classes—will necessarily be different than those standing on otherwise empowered vantage points, and so should be accorded special privilege both for political reasons and because the view from the margins is arguably less confounded by the concomitant of the powerful to sustain and protect its position. My use of the point is aimed at preventing possible interpretations by those who may read these texts, that I am presenting anything other than a contingent subjective account, whatever my attempts to be broadly informed. There is no truth implied, only something that may approach a re-constitution of an imagined socio-political world and process based on fragmentary knowledge obtained in my own life course and selected in the act of writing this narrative, and to the extent possible for me, based on a personal-political commitment to challenge the privileged perspective of the powerful.

My narrative takes its cues from several of the film's scenes and from them wanders into discussions of significantly informative cultural texts in historical and contemporary projects of dinosaur public-scientific presentation, all of which bear somehow on the meanings and visualizations which I derive from the scenes. At the same time, I interpose other partial perspective readings of the film from several discourse communities: science and technology (Gould 1993, Uhlir 1993, Marcus 1993); feminist film criticism (Place 1993); and 'non-feminist' popular film criticism (Rafferty 1993). All of these critiques/reviews are embedded in the North American cultural milieu—they are internalist commentaries as such, some more critical than others. Though my positionality embeds my own readings in the North American milieu as well, I want to draw a potentially more thorough-going critique of the pervading cultural/textual formations at work here.[2] Coursing through the texts are references to cultural theorists and interpreted sources that help to focalize and lend coherence to the contingent ideas, visualizations, and polemics presented.

The narrative of *Jurassic Park* is spun around themes of American capitalist adventurism, theme park mass entertainment and commodification, biotechnology, monstrosity, and fears of bestial consumption and loss of control—nervous terror. Bodies are threatened by unleashed blood-thirsty bodies of fury—with tearing teeth and claws projecting fantasies of the most horrible pain, the worst sort of death, to be eaten alive.

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[2] As a writer located in Canada, I find myself a *de facto* participant in G7 politics. Canada, however, is the smallest economic partner in the G7 association, the biggest geographically (hence offering plenty of 'natural' resources for our partners to 'share' in), which places me in the margins of a contingently drawn centralizing world force. The biggest player in the G7 remains America, followed closely by Japan. This critique looks especially to the centre of centres, the power of powers, the promoter of promoters, the big time dinosaurography-generator, America.

The story is easily encapsulated.[3] A wealthy entrepreneur, John Hammond, conceives and develops the "ultimate theme park" on the island of Isla Nublar off Costa Rica—a high-tech recreated, recreational world of living dinosaurs regenerated biotechnologically by cloning of DNA. The DNA is extracted from dinosaur blood preserved in the bodies of Mesozoic mosquitoes encased in fossil amber mined by American investment capital and third world labour from the mountains of the Dominican Republic. The dinosaur DNA is recombined with frog DNA to "fill in the blanks" in the genetic code—resulting in the generation of live dinosaurs, true monsters. A dinosaur palaeontologist Alan Grant and palaeobotanist Ellie Sattler, along with chaos theorist Ian Malcolm—who predictably predicts the tale's monstrous chaos—are brought in, or bought in, by Hammond to inspect the park's safety features shortly after a deadly accident during park development. A helicopter flight over the sea, suggesting a techno-sperm inseminating the island egg, brings the scientist-approval team to Isla Nublar. They, and we, are introduced to the park's safari interpretive centre, its dinosaur-making technologies, and its computer-control systems, the latter of which eventually fail to operate as they were designed to. Hammond's grandchildren enter the tale, eventually attaching themselves to the palaeontologist couple, fixing the image of archetypal American family unit.

The film then takes off on an action-packed tour of the park that goes completely wrong as a result of industrial sabotage as well as human and computer error, with all manner of human dismemberment and devouring at the claws and jaws of various blood-thirsty carnivorous dinosaurs, and several 'touching' and 'comical' encounters with peaceable herbivorous dinosaurs—in this tale boys are attracted to carnivores, girls to herbivores. All the dinosaurs have been genetically engineered female to prevent reproduction, but this project also goes awry with half the population auto-transsexualizing into males, and the beasts 'naturally' begin to proliferate. The villain-dinosaur of the film is *Velociraptor*, an 'intelligent' pack-hunting, human-sized killer carnivore. A *deus ex machina* ending brings along the blood-thirsty giant *Tyrannosaurus rex* to gobble up the marauding *Velociraptors* before they can make a meal of the heroic family. The exit from the island is once again in the now-retreating spermo-copter, clearly having failed in its artificial techno-organic insemination project. The flight over the sea follows flying pelicans, vaguely implying that nature, left to its proper evolutionary course, will produce beautiful things—birds in this case, understood phylogenetically to share common ancestry with dinosaurs. Nature is the purifying, rectifying force. It is man and his misuse of technology that leads to monstrosity and monstrous disaster.

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[3] The narrative I refigure here is drawn from several viewings of the film version of *Jurassic Park* (1993) and from the "official" souvenir magazine that was marketed in association with the film in America and Canada.

Of course, there is much more to the story in the detail of the multiple polytropologies and sub-narratives deployed throughout, and it turns out that these are highly derived figurative interlayerings. Part of my project in these texts is to draw attention to the socio-political continuities in that span of ongoing cultural transformation marked out by the 1854 Crystal Palace Park dinosaur-monster presentation project of Richard Owen and Benjamin Waterhouse Hawkins, and the theme park dream world of *Jurassic Park*. Both the 1854 and the 1993 productions are informed by their respective histories and their situated spans of nature/culture knowledge production. Hawkins' dinosaurs are a salient part of the history informing Spielberg's dinosaurs. The degree of consistency, given what would otherwise be seen as contrasting colonial and post-colonial contexts of the two projects, suggests that the dominating narratives of nature/culture, gender and racial oppression, and monster commodification, are really only slightly altered in the 140 year time span which their public deployments frame. At the same time, the generation of hybrid knowledge formations and related subject participation/fascination is, in the 1990s, revealing itself as an increasingly accessible and potent site for anti-racial, anti-sexist, anti-domination discourse.

Dinosaur Appropriations, Monstrifications and the "New World" Order

Into the late capitalist world of impending doom and promise of earthly salvation came Stephen Spielberg's *Jurassic Park.* The Western world of consuming movie goers waited lovingly and fearfully for the Jurassic world to come back to life in 1993.[4] Spielberg's production, the ultimate capitalist film enterprise, is a pessimistic indulgence in every contemporary American fear constructed through the blending of equally constructed frightening past, present, and future worlds of Nature-as-revivified-dinosaur-monsters, of hyper-technology cyber-worlds, bio-technology invisible worlds, mass entertainment, reproductive control, Woman, Man, Boy, Girl–the ideal American family unit out for a pseudo-nature theme-park experience. During this 'picnic', the picnic-raiding ants are replaced by something considerably more irritating, something more interested in the picnickers than the contents of the picnic basket.

The dream of *Jurassic Park* is also the dream of all Big Science ventures—to control otherwise uncontrolled Wild Nature with the final aim of profit-making and securing of elevated global economic power positioning. The effect however is the extending of Spielbergian American cultural values and fears to a trans-national audience numbering in the hundreds of millions, ensuring viability and the future of continual reproduction of Spielberg-style dreams in subsequent productions of his Amblin Entertainment film company. The legacy of Crystal Palace Park and the Owen-Hawkins dinosaur islands lives out its final imperious manifestation in this film-dream about inventing a theme park-dream populated with dinosaur-dreams to bring wealth to a dreamy trans-Atlantic billionaire, Spielberg's apparent surrogate. The dreamed-entrepreneur spends a billion dollars watching his dream turn to nightmare. Spielberg earns a billion dollars turning nightmare into box office dream. In *Jurassic Park* dinosaurs become the most successful failures ever to live. The horrifying irony of *Jurassic Park,* the film, is that it realizes everything that "Jurassic Park", the theme park, aspires but fails to realize in its oft-misty appropriated third-world island fantasy.

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[4] Palaeontologists would recognize that many of the dinosaurs presented in Jurassic Park are actually from the period designated as the Cretaceous, something which Gould quickly points out (1993). Such science-polemics become secondary in the efforts of entertainment and marketing executives, or of book and film editors, or of imaginary theme park 'imagineers' to project an attractive aesthetic to a media-slogan saturated public. Sound-bites and one liners are the mainstay of competitive advertising and media presentation. The imagineers of public media culture today are pervasively mixed-up with the 'imagineers' of science and technology. Their recurrent dream is the same: to control nature/culture as a means of commodifying experience, directing labour and earth resources to the goal of progressive generation of affluence and sustaining or extending of desired structures of power.

In the spirit of *Teenage Mutant Ninja Turtles*, and tied into the massive Hasbro / Toys'r'Us retail marketing complex (cf. Seiter 1992), *Jurassic Park* is a marvel at commodity-layering, generating myriad merchandise products projected to gross well over $1 billion US, including dinosaur models, Sega video games, hand-held electronic games, comic books, trading cards, the obligatory "making of *Jurassic Park* " film, souvenir magazines, *Jurassic Park* t-shirts, decals, MacDonald's plastic soft drink cups and Brontoburgers, candies, cereals, and "Raptor-nuggets"—a greasy fast-food designer meat product to feed the carnivorous movie-going masses (Gould 1993).[5] To cater to those who might find sinister ophidian *Velociraptors* and *Tyrannosaurs* too disturbing either for themselves or for their children, a line of suitably neotenized, Barneyesque cuddly dinosaurs were also invented.[6] The marketing of keepable take-away material culture is used to ensure the permanence of memory association with the film, to cement California filmic, comic cultural knowledge in American and trans-national movie-going imaginations. No potential profit-center is left out of the stand-alone industry known as *Jurassic Park*. Aside from the revenues from these many subsidiary productions, the film's $60 million production budget, and $68 million promotion budget generated well over one billion dollars in gross box office receipts (leaving aside video sales to start in October of 1994)—making it the highest grossing film in the history of film-making, and surpassing the gross national product of several of the world's poorest nations.

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[5] The various marketing statistics and merchandising information provided here are drawn from issues of the London daily *The Independent* (April 25, June 10, 20, 1993) in addition to Gould's article.

Commodification interests flowed happily from the film production into institutional science education domains. The world's two grandfather Nature-writing museums, the Natural History Museum off London's Hyde Park and the American Museum of Natural History off New York's Central Park[7], staged high-impact dinosaur exhibitions to coincide with the release of *Jurassic Park*. The London museum presented robotic dinosaurs and 'educational' exhibit narratives to urge public acceptance of the veracity of palaeontological reconstruction practices in spite of the presence of the cyber-beings. This oppositional coding would lead audiences to distinguish between coded fantasy in the robots and coded-Truth in the more traditional museum-style displays on palaeontological method. The New York museum presented the models and robots actually invented for the making of *Jurassic Park* ("The Dinosaurs of *Jurassic Park* ")[8] to show the ultimate expression of scientific dinosaur reconstruction which science-authorized museum inventors could never afford to reconstruct in their own milieu.

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[6] Stephen Gould (1979) and anthropologist Elizabeth Lawrence (1984) have both written on the attractive, commodifiable quality of neotenized animal forms from Mickey mouse to all manner of stuffed animal. Barney the happy dinosaur of PBS children's broadcasting is another case in point. Children under 5 years of age are Barney's big audience. Features that might be seen as frightening in the tyrannosauroid image are all softened, rounded, or removed—Barney has a smooth white band in place of the crocodile like teeth found in carnosaur jaws, a stubby tail, pretty eyes, a purple plush skin, a grinning mouth, and highly rounded hips, legs and arms. Barney, while nominally a carnivorous dinosaur, is little more than an overgrown stuffed toy—quite unthreatening.

[7] Grand-scale nature museums are consistently located in or near major urban parks, extending the island or oasis image of nature. Other examples are Paris's Museum Nationale d'Histoire Naturelle in the Jardins des Plants, the Museum Nacional de Historia Naturales in Madrid next to a Race Track park, San Francisco's California Academy of Sciences Museum in Golden Gate Park, Tokyo's National Science Museum in Ueno Park. By being physically closer to something invented to be natural, the museums appear to attain their makers' desired truthfulness.

The Fast Lane to *Jurassic Park* : Trans-Atlantic Trajectories of Dinosaur Appropriations

John Hammond, the filmic visionary of the theme park Jurassic Park, is played by Richard Attenborough. His suitably Trans-Atlantic accent refracts antecedent histories of transference of dinosaurographic knowledge formations from England to America. Attenborough's brother David narrated the PBS/BBC docu-series "Life on Earth", adding yet another Anglo-American association as well as the more obvious flow into legitimated science knowing. The following texts offer a sampling of some key stories that lead to the Late Capitalist visual/literary expression called *Jurassic Park*, tracking along this Anglo-American trajectory.

Trans-national appropriation of dinosaur power discourses, and subsequent exporting of the Americanized versions, is readily exemplified in the various trans-Atlantic movements of dinosaurographies since the middle of the 19th century, such that by the beginning of the 20th, America had become the dominant scientific/public culture generator of dinosaur visualizations.[9] Not long after the Owen-Hawkins Crystal Palace Park monstrifications were deployed, in 1858, Joseph Leidy of the Philadelphia Academy of Sciences published a description of the creature *Hadrosaurus foulkii*, fossils of which had been discovered in Haddonfield, New Jersey (Colbert 1968:45-7). This event has been marked as America's officialized entry into full-blown dinosaur palaeontology (also see Buffetaut 1987:126-128).

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[8] The AMNH (New York) exhibition was 'mounted' in collaboration with the Dinosaur Society, an American not-for-profit public fund-raising instrument that attempts to channel percentages of media productions to the research projects of dinosaur palaeontologists in exchange for scientist-supported Society endorsements.

In 1869, there was a failed attempt to directly reconstitute the Owen/Hawkins dinosaur-monster phenomenon from Crystal Palace Park in London into New York's Central Park. Benjamin Waterhouse Hawkins was commissioned to invent new 3D monsters including the Leidy *Hadrosaurus*. The plan for the "Palaeozoic Museum" which was to house the constructions, re-envisioned the island world of prehistoric bestiality once again (Colbert 1968:51). Though local politics sabotaged the project, Hawkins's visions did eventually reach the public in 1875, with a plaster *Hadrosaurus* constructed for the Philadelphia celebration of the centenary of the Declaration of Independence—as if to show that even in monstrous science America could assert its autonomy from an English past.

American dinosaurographic appropriations took place rapidly over the last three decades of the 19th century especially given the presence of extensive fossil-bearing sedimentary deposits in the plains and desert "frontier lands"—lands that would later be written over homogeneously as the "American West", but which were and are the rightful territories of a multiplicity of aboriginal societies and their peoples. The parallel imperialist urges to "tame the West", to "open the frontier", to "rid the frontier of savagery" can be seen to easily accommodate the "civilizing" impulses of East Coast institutional America to achieve international competitive stature in pure science discourse. Colbert uncritically tells the tale of the 'great' dinosaur hunters Edward Drinker Cope and Charles Sternberg collecting dinosaurs in Sioux territories in 1876 not far from the Little Bighorn just days after the mythologically-written "Last Stand" of General Custer.

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[9] These 'classic tales' of American dinosaurographics are drawn from Colbert (1968), Krishtalka (1989), Desmond (1976).

A significant indicator of the colonial extension into recent modern palaeontology is presented in the Judith River beds in which Cope's team prospected. This is the same geological formation from which the fossils of the *Jurassic Park* famed dinosaur *Velociraptor* were later collected. Indeed, the palaeontologist whom Alan Grant's character is modeled after is Jack Horner who has been one of the major participants in the lifeworld invention/descriptions of *Velociraptor* (cf. Horner 1988). National Geographic Magazine (Gore 1993) profiles of Horner include images of his camp in Montana, outfitted with Blackfoot Teepees as field accommodation—a "politically corrected"[10] form of cultural appropriation in BIA, reservation-constrained aboriginal cultural contexts of the 1980s and 1990s.

Mass attention on America's rising position in dinosaurographies was brought about by the now highly historicized "Fossil Feud" of E.D. Cope and Othniel Marsh in the 1870s and 1880s (cf. Shor 1974, Buffetaut 1987:129-138; Noble Wilford 1986, Colbert 1968, Desmond 1976). European and American newspaper coverage contributed to the public/scientistic construction of the re-centering of dinosaurographies from Britain to America. American capital, and the inbuilt science imperialism in monster-power appropriation, combined with the continual identifying of new geological fossil sources in the increasingly settled and 'explored' American West ensured the future of American supremacy through to the present. All of the major eastern natural history museums entered the "hunt" for "Prehistoric Big Game" trophies—yet another constructed nature domination figure.[11] Among these institutions were the prestige-making American Museum of Natural History (AMNH, New York), the Carnegie Museum (Pittsburgh), the Philadelphia Academy of Sciences, and both of the Harvard and Yale Peabody Museums. The attendant news coverage by the American mass media industry, and the growing number of museum displays in all of these centres, propelled dinosaur science enterprises to an ever-widening American public. News stories of the American strides in dinosaurography also made their way back to Europe overshadowing the relatively fewer and less dramatic dinosaur finds on that continent, given a relative paucity of dinosaur fossil-producing deposits (cf. Torrens 1993, Buffetaut 1987:193-199).

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[10] The unfortunate figuration of "political correctness" itself embodies the politics of appropriation. Facile gesturing and minimal adjustments in equity hiring, corporate environmental propaganda, incorporating of aboriginal material culture symbols into otherwise acquisitive, domination practices reveals itself to be little more than political pandering to sustain those practices and deflect situated public criticism—more appeasement.

American industrial philanthropists—including such names as J.P. Morgan, George Peabody, Henry Ford, and most importantly, Andrew Carnegie[12]—became significant forces in fueling the Americanization of dinosaurs and palaeontological exploratory-conquest. Carnegie's role in monster-power public science tactics through dinosaurs is best exampled in his aggressive stewarding and financing of a project to place mounted skeletal casts of the huge dinosaur *Diplodocus carnegii*, in several major museums in cities around the world where he had political and investment interests.[13] The tale is that of

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[11] There are many examples of the use of the big game hunting metaphor, including notably C.H.Sternberg's book *Hunting Dinosaurs on the Red Deer River, Alberta, Canada* (1917), Loris Russell's *Dinosaur Hunting in Western Canada* (1967); and Barnum Brown's National Geographic article "Big Game of Other Days" (1919). It is curious in noting this that the majority of examples are associated with dinosaur expeditions in Alberta, Canada.

[12] Descriptions of the involvements of all these powerful characters are dispersed through Colbert's texts (1968).

[13] This tale is told in Krishtalka, Colbert, and Desmond (see note 11).

Carnegie discussing the *Diplodocus* with his friend the future King Edward of England, who supposedly expressed the interest of the British Museum (Natural History), of which both were trustees, in acquiring an example. Carnegie obliged, and then saw to it that casts were also donated to the major Natural History Museums in each of Frankfurt, La Plata, Mexico City, Paris, and Vienna. As with the Crystal Palace dinosaur-monsters, these corporate reproductions were completely open to hybrid nature/culture engineering, made up partly of facsimiles of the original visible fossils from a Utah quarry, partly of the socio-political-prestige network of their distribution, partly of Andrew Carnegie himself in the name of the beast. The Carnegie Diplodocids proved not only to be the most significant dispersal of dinosaur-monsters up to that time, but also demonstrated the new position of the American dinosaur enterprise in a global capitalist network of museum and public education influence.

Most of the dinosaur stars in *Jurassic Park* are also stars of American dinosaur palaeontology, constructed from finds made in the early part of the 20th century—*Triceratops*, *Tyrannosaurus rex*, *Brachiosaurus*, *Struthiomimus*—and all of which have had long-standing careers performing to the public throughout the USA and around the world in the form of skeletal mounts, models in museums, children's book illustrations, television and film imagery. As chronicled in the volume with its imperially-motivated title *The New Conquest of Central Asia* (1932), America also brought attention to dinosaur reproduction with the massively publicized find of dinosaur eggs in Mongolia—cueing an attentive public to the horrifyingly delightful possibility of monstrous proliferation. The AMNH Central Asiatic Expeditions was lead by the museum's greatest explorer-collector-buckaroo, Roy Chapman Andrews, who in the 1970s was chosen as the model for another of Stephen Spielberg's earth-probing characters, Indiana Jones of the *Raiders of the Lost*

Ark feature film series.[14] The Colt-wielding, bandit-fighting, Andrews had taken fine symbols of American achievement into the field in the form of eight Henry Ford donated autocars—ironically supported by a 100-strong, gasoline- and supply-toting camel train. The cars achieved visual fame in repeated imagery of them becoming stuck in the Gobi Desert sands (cf. Perkins 1981). The camels never became stuck—suggesting that the cars were brought moreso as a show of American technological dominance, however inappropriate that technology turned out to be in the Central Asian setting.

While Andrews's eggs were achieving mass culture notoriety, other of America's dinosaurs were being transformed into cement and finding their way back into their now-customary theme park habitat, as in the case of the Crystal Palace dinosaur-monsters, this time in association with the 1933 "Century of Progress Exposition" held in Chicago. The Sinclair Oil Company sponsored the invented dinosaur park project while at the same time adopting for their logo the silhouette of the exposition's leading pseudo-saurian *Brontosaurus* . Ancient fossil-sourced monsters of science—which were well-known by then to generate public fascinations—could be recruited analogically to the service of marketing fossil-sourced fuels and lubricants.

Over the next 60 years, prehistoric monster theme parks proliferated, following the Sinclair concretosaurus models, and now dozens of these folksy manufactured micro-worlds of hybrid beings dot the Interstate route maps of the United States in the form of tacky road-side tourist attractions (cf. Glut 1980:236-237). Most of these low-technology or available-technology dinosaur parks—unlike the high-tech illusion-making of *Jurassic Park*—betray their illusions of built inhabitants freely. They are as much silly playground climbing equipment for car-weary children, as they are threatening monstrosities.

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[14] Interestingly, then-Director of the AMNH and eugenics promoter Henry Fairfield Osborne—who also contributed to the description of *Tyrannosaurus rex*—had dispatched Andrews team to Asia in search of the fossil origins of humans, seeking the source of 'us', and instead the expeditions turned up the exact opposite, nature's most extreme 'not us', dinosaurs. The effect for the AMNH probably exceeded their expectations as world media interest flooded the museums publicity department, focused principally on the finds of nests and eggs of *Protoceratops* (cf. Preston 1988).

America's dinosaurographies had by the 1930s fixed the beings into the domain of 'dull-witted, oversized, outmoded, non-adaptive, failed monstrosities of nature', and they had also classified what were believed—read contingently-constructed—to be most of the major groups of dinosaurs. Dinosaurs were now tightly figured as fixed-form monstrosities, and as pure knowledge forms of science. As such they had no serious place to go in science/culture institutional settings. Institutional interests in dinosaur palaeontology fell off from the 1940s through to the late 1960s, such that few new museum displays were created, and science journalism and science education publishing kept reifying the now well-known 'dinosaur as dead-end' narratives and tropologies (cf. Gould 1992, 1991b).

However, the well-established socially-sanctioned figurations continually bound dinosaurs into a limited metaphoric domain as beastly failed nature (cf. Haste 1993). This metaphor was incorporated eagerly by Hollywood image-makers, fueling a steady stream in dinosaur-populated monster and SF movies in the 20 years following the Second World War, most of them playing off primitive nature or cold war nuclear holocaust fears (cf. Glut 1980:80-146). *Jurassic Park*, at least in part, is another case of this form of exploitation of such public nature/destruction fears. That said, the shifting from museum-land lifelessness to movie-land invigoration effected a relocating of dinosaur-monsters into a more actively transformative site where such possibilities as new narratizing contexts and highly animated action and interaction could arise for these otherwise typified, purified, if not mundane static, statuesque quasi-beasts of museums, worlds fairs and theme parks.

The trickster dinosaur-monsters began again to shapeshift in this new environment of popular film culture, but always responding to the conditions of imagistic management by movie designers, screen-writers, animators, and profit-motivated commodifiers of the public fascination with such potent transformers of nature/culture.

The cases of animated revivifying of dinosaurs in popular cinema is almost as old as the entertainment formation of cinema itself, with over 100 examples of efforts including such notables as "Gertie the Dinosaur", *The Lost World*, two versions of *One Million Year's B.C.*, and Disney's *Fantasia*. *Jurassic Park* can be read into this trajectory as a extraordinary culmination of that urge to bring dinosaurs back from the dead by means of cinematic virtual technologizing. The dream is expressed in filmic dinosaurs, and the story is about the wished for biotechnological dream taken well beyond virtual reality limits to the actual generation of living dinosaurs. In this sense, the film as instrumentality and as narrative is an analogy of seemingly relentless technological progress projects to cross the "final frontier" of fantasy/reality engineering. In such a dreamworld, dinosaurs are transformed from mere metaphors, simulacra, and dreams into reality—though we know that there really is no Jurassic Park theme park, that this is all a fiction and a disturbingly frightening fiction given material technoscience efforts to fully map and harness the mystery of life in the human genome project. If in the future we will be able to make people from little twisted strands of molecular bio-matter, why can't we make dinosaurs or any other manner of bio-monster?

But that feared possibility is still written as being safely in the future, however near. We continue to live the metaphoric hybrid literary/visual dinosaur monster in our figurations. The power of literal refigurations in the dinosaurographies of palaeontological visualizing emerging in the 1960s and 1970s—a modern world 'moment' characterized by massive student unrest and political/discursive transformations (cf. Wallerstein 1991:)—was also invigorated when new metaphor-wielding, narrative-hybridizing palaeontologists such as Robert Bakker, John Ostrom, Dale Russell, Jack Horner, and Philip Currie[15] began to challenge some of the received narratives accreting around the metaphor of dinosaur as monstrous obsolescence. All, perhaps with the exception of Ostrom, remain highly influential in generation of current dinosaurographies.

Ostrom wrote interpretively onto the fossils of *Deinonychus*, a 'cousin' of *Velociraptor*, that the beast might have been a pack hunter, highly energetic, and endothermic or "hot blooded" (Ostrom 1969, Desmond 1976). Among many fantastic conjuring acts, Bakker used his remarkable literary/metaphoric facility to draw correspondences between readings of the energy dynamics of living carnivore/herbivore populations in Africa and readings of dinosaur fossil assemblages to construct a more pervading scheme of high energy endothermy among dinosaurs, especially carnivorous dinosaurs (Bakker 1972). Currie has gained recognition for his interpretations of anatomical-phylogenetic continuities between living birds and small carnivorous dinosaurs including *Velociraptor* and Troödon (eg. Currie 1987). Horner troped one of the few feminine nominations of a dinosaur genus *Maiasaura* "good mother lizard" the remains of which were associated with huge fossil 'nesting grounds' containing exquisitely preserved eggs and embryonic dinosaurs (Horner 1988).

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[15] Currie and Russell are both professionally situated at Canadian institutions—respectively, the Royal Tyrrell Museum of Palaeontology in Drumheller, Alberta and the Canadian Museum of Nature in Ottawa—but are highly networked into the American-centred international vertebrate palaeontology dinosaurographies. Bakker, Ostrom, and Horner are all located at American institutions—the University of Denver, Yale, and the Museum of the Rockies in Montana respectively.

Russell, arguably the most controversial of these palaeontologists, conflated such discourses as catastrophic extinction, global biogeography of dinosaurs, convergent evolution, and the unashamed monstrous project / thought experiment known as the "Dinosauroid"—an imagined outcome of convergent terrestrial evolution toward a human-dinosaur fabulous being, with overtones of Teilhardian directed evolution projects. The project contributed to discussions on the plausibility of similar outcomes of extra-terrestrial evolution that might generate the 'little green men' consistent with reports of encounters with beings from UFOs.[16]

I point out these selected examples of dinosaur imaginings, to draw attention to a revival in monstrification impulses over the last 25 years in North American dinosaurographical discourses, and in so many hyper-active, hyper-imaginative public discourses of late or post modern times. These sorts of imaginings are part of the most recent knowledge production trajectories and practices that help to construct and situate the *Jurassic Park* phenomenon. Meshing with new animation and virtual reality film technologies, with manufactured quick-replacement commodification of highly diverse techno-media experiences, such re-narrations of possible lost and manufactured dinosaur-monster worlds help to focalize the most recent massive explosion of public/scientific engagements with dinosaurs.

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[16] Russell has experienced occasional muffled backroom ridicule in the vertebrate palaeontology community for his imaginative project—clearly located in the danger zone of mainstream dinosaurographical discursive terrains. At the same time, his imaginings have been well-received among groups of recognized astrophysicists, astronomers and philosophers who have been invited along with him by NASA and SETI laboratories to discuss the existence of intelligent, humanoid extra-terrestrial life (cf. Russell 1987).

Techno-Man, Nature-Woman and Disembodied Reproduction

> *One kind of dinosaur had short legs. It looked something like an army tank. Two long horns stuck out from its head like machine guns.*
>
> Roy Chapman Andrews on *Triceratops*, *In the Days of the Dinosaurs*, 1959.

> *In terms of its phylogeny, this specimen is just a few steps from the mother dinosaur.*
>
> Paul Sereno on the oldest known dinosaur fossil, Society of Vertebrate Palaeontology Meetings, Toronto, 1992.

> *In Jurassic Park God is Nature, and She Rules……To man, nature is ever creation, creation is reproduction, and reproduction is ever female.*
>
> Vanessa Place, in *Film Comment*, 1993.

The perplexing problem with Man, that is self-figured modern Western Man, is his insecurity, is the difficulty he has in playing second fiddle to anyone else—God, Nature, Woman, and other non-modern, non-Western, non-Men of the world—all of which modern Western Man has written, or whose bodies he has written onto, in any case. His response is to make sciences that partition the world into perfectly and safely known pieces, to name all the pieces, put them into convenient hierarchies that ensure his proper place at the top of the heap. His response is to make technologies that probe, commodify, and control invented God, Nature, Woman, and the non-modern Other. All of these themes are given full coverage in *Jurassic Park*, which at the same time, in unmitigated hypocrisy, embodies and glorifies these same themes by reproducing them for a massive worldwide paying audience.

Several scenes in *Jurassic Park* code women as close to nature and nurturance, and man as close to technology and aggression. The contested theme of gendered/disengendered reproduction courses throughout, beginning with the metaphoric techno-insemination by the helicopter-as-sperm—its landing gear retracted to enhance the sperm association. *Isla*

Nublar—darkly coded, literally 'clouded island'—an organic-world embodiment becomes ovum, passively awaiting the penetration of the techno-sperm, descending into a particularly deep crevice to the waiting, target-marked landing pad. Woman's reproductive involvement becomes organicized nature, man's mechanized technology. But there is no pilot for *Isla Nublar*, only on the helicopter—woman as Nature has no agency in this tale. Later, male appropriation of woman's role in reproduction is fully achieved in the incubation laboratory, when Owner-operator Hammond takes the part of surrogate mother, lovingly holding a newly hatched *Velociraptor*. This dinosaur, like all the others, is engineered female—the material means by which the all-male technical staff and owners achieve reproductive mastery. Again, these invented beasts of nature, or quasi-nature, made-up nature, are female. Eventually "Mother Nature", the great goddess, intervenes, bringing upon Man the unwanted transformation of half his invented girl-monsters into boy monsters. They begin to interbreed, and the great Mother sets her vengeance upon all, devouring all in her path.

Given a history of male centrality—the "malestream"[17]—in the discourses of what I have termed 'dinosaurographies', dinosaur palaeontology can be viewed as a genre of masculinist sandbox domination—dinosaur visualization becoming an organicized version of dinky toy tank battles and stock car auto wrecking. I present these battle machine, auto car fetishes with joking seriousness. I have heard young boys at play refer to the "makes" of dinosaurs.[18] One of the predominant 'genres' of popular dinosaur books parallels the format presented in *Jane's* series of military technology identification encyclopedias. In such identification guides, dinosaurs—like Jane's tanks, missile launchers, and battle cruisers—are presented in silhouettes, often with unmistakable 'man' silhouettes for size comparison, geographic location maps, and with spec-sheet information on behavior, ecology, phylogeny, anatomy.[19]

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[17] "Malestream" is another one of Haraway's highly pointed, especially effective parodies (1994)

[18] The idea of different dinosaurs as "makes" was also uttered by 10 year old Peter Vetsch in our 1992 interview, when he was pointing out what attracted him to dinosaurs, especially to dinosaur books: learning the different "makes" of dinosaurs was exciting.

Just as with its massive military hardware inventories (indication of quantities by nation is presented in Jane's guides by means of multiples of silhouettes and half-silhouettes of the equipment-type), America has the most impressive dinosaur hardware inventories. It has claimed to have discovered, though actually manufactured, the "king of the tyrant lizards" *Tyrannosaurus rex*; the world's largest dinosaurs, naming them according to their gigantic superiority *Supersaurus*, *Ultrasaursus*, *Seismosaurus*; the world's 'smartest' dinosaurs *Deinonychus*, *Tröodon*, and *Velociraptor*; the world's most diverse group of dinosaurs, the herbivorous *Hadrosauria* or duck-billed dinosaurs; the greatest 'defensive/offensive' dinosaur *Triceratops*; and the list goes on including dinosaurs spanning the three periods of the Mesozoic era, taking in all major groups of dinosaurs, and all manner of fossil remains from complete skeletons and skulls to mass death sites representing thousands of animals.[20] America is number one in dinosaurs because America has ensured it would be thus, remembering that the America I write of is an America of institutionally-located, state and corporate/private funded predominantly male academic discourse, fully interested in its position in the global politics of pure natural sciences, expressed power over a constructed nature of nature/culture, and highly responsive to public fascination in its dinosaurographies. Supremacy in dinosaurs is a relocation of the same motivations that seeks supremacy in nuclear warhead counts, all part of the ongoing masculinist, and still highly colonial project of world conquest. Mastering the top twenty makes or brand names of dinosaurs is little different than recognizing, or better yet owning one of, the top twenty makes of cars, all part of the game of techno-linguistic, techno-material mastery of object life and the object world.

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[19] Examples include David Norman's *The Illustrated Encyclopedia of the Dinosaurs* (1985), Gregory Paul's *Predatory Dinosaurs of the World* (1988) which even includes the likening to "tonnage" in his presenting the "kilogrammage" of the profiled monsters, Don Glut's *New Dinosaur Dictionary* (1982), and Monty Reid and Jan Sovak's *The Last Great Dinosaurs* (1990).

[20] This is all widely published knowledge. See any of Norman (1985), Lessem (1992), Noble Wilford (1986), Russell (1989).

The effect in all of this is objectification of the world, entailment by categorizing and naming of the objects generated, and separation between the subject and all those contingently designated objects. Dominant dinosaurographies constructing dinosaurs as remote, far-away, unthreatening, distant-others create the ideal conditions of human/nature or culture/nature—read man/woman—separation. Counterposing constructions of primates as still with us, near-other, potentially contactable almost-subjects creates possible conditions for human/nature or nature/nature—read woman/mother nature—communion (cf. Haraway 1989:133-85).

In *Jurassic Park*, female characters are coded as nature-connected, earth-sensitive, and nurturant. Ellie Sattler is a palaeobotanist—plant study drawing in associations with domestication and the care of household plants. At one point, seeking answers to a possible dietary disorder of an ailing *Triceratops*, Sattler sinks her arms elbow deep into a huge pile of dinosaur shit—the gesture of handling dirt, excrement, the profane, the earthly often assigned socially to women, outcasts, the marginal of society (cf. Douglas 1966, Lakoff 1987). In a parallel scene, the little girl in the film who favours the herbivorous dinosaurs, reaches out to pat the nose of a mild-mannered, tree-browsing *Brachiosaurus*, which sneezes, spraying her in gallons of dinosaur snot.[21] These are acts of contact with what is imagined as nature's most disgusting, taboo matter—the stuff that crosses a boundary from inside the body to the outside, and not just any boundary, but that of quasi-nature at its most monstrous, in the form of giant quasi-dinosaurs.

Throughout all this, Grant and the little boy repeatedly train their attentions on the carnivorous dinosaurs, reifying a sense of man the warrior, man the dragon-slayer, still more tropics of conquest. Grade school children in Western Canadian schools show preferences following this divide of carnivorous dinosaurs for boys and herbivorous dinosaurs for girls[22], something Spielberg has specifically appealed to in his coded genderations here as in other of his films including *ET*, *Poultergeist*, and *Close Encounters*, all of which deploy gender-stereotyped behavior in child characters. Such popularized gender embodiments and reproductive disembodiments serve Spielberg marketing aims well, meshing with already highly reified public discourses (cf. Emily Martin 1990), and at the same time reifying these gender constructions on a mass scale. Spielberg cartoons man who makes the monster-females as revivified lost mother nature, man who controls the she-monsters' reproduction, and he cartoons woman with the caring touch and the touching care to contact untouchable nature.

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[21] Spielberg's take on the woman palaeontologist working with dinosaur excrement has a current palaeontological example to draw on, again blurring public and scientistic discourses, in the work of U.C. Berkeley graduate student Karen Chin, who studies trace elements in dinosaur feces to reconstruct Mesozoic diet and ecosystems, in her own words, veritable "who dung it" mysteries (cf. Gore 1993). To the best of my knowledge, there are no examples of male or female researchers studying evidence for dinosaur snot.

[22] The public culture manufacturing and engendering of nature begins early. On separate occasions in 1991 and 1992, I gave talks on dinosaurs to two different grade one public school classes, asking the questions both times "who likes carnivorous dinosaurs?" and "who likes herbivorous dinosaurs?". Out of the two classes of twenty each, all the boys, except one, said they liked carnivores, and all the girls said they liked herbivores. The odd boy out said he preferred herbivores because everyone in his family was vegetarian.

Man's Emissaries to Monstrous Nature

Donna Haraway writes, "Primatology is a genre of feminist theory" (1989:278)[23], and a genre that early on its history posed woman as "man's emissary into nature" exampling particularly the National Geographic Society involvement in the Gombe chimpanzee investigations of Jane Goodall since the early 1960s (Haraway 1989:133-85; Noble unpublished manuscript). Goodall's touch across the boundaries of species to species was manufactured as part of a Mobil Oil advertising campaign depicting her hand in the hand of a chimpanzee, from which Haraway is able to deconstruct currents of conflated gender and racial constructions, which can also be read gradually from counterposing public/scientistic trajectories of ape-human affinity and dinosaur-human distance that trace back to colonial England.

Evolutionary debates of Victorian times displayed a curious but significant parochialism in choosing two special groups of beasts as exemplars of evolutionary process—apes and dinosaurs (cf. Desmond 1989). Dinosaurs would repeatedly be chosen as the case study of a biological dead end. What better creature than one that displayed no future, but only suggested a finality, which was designed to be so otherworldly. As with most other prehistoric beasts, dinosaurs were subject to that most final of finalities—extinction, which had become an appropriate narrative counterpoint for developing ideas of evolution (cf. Charig 1991). Some things stop, while others change and continue. The propensity for metaphoric application of dinosaurs as dead end, and higher primates as open-ended and leading, namely, to us, Homo was carried into the debate with facility and frequency (cf. Landau 1991, Irvine 1955, Desmond 1989).

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[23] Haraway's contestable claiming of primatology as a genre of feminist theory (cf. Jolly & Jolly 1990) is a convictional intervention, a radical claim that is part and parcel of her "Primate Visions" which seek to create spaces for increasing anti-sexist, anti-racist discourses. That stated, the claim can even be supported by 'empirical evidence' for those who may feel nervous without such a construction. Women now constitute over half the profession of primatology worldwide, and more than half of the new textualizations being generated in this field are by women (L.M. Fedigan, personal communication), many of whom also have marked feminist convictions.

This is also consistent with Rudwick's analysis of a developing late Victorian public view "in regarding the deep past as a single undifferentiated world" (1992: 244), an alien world, that was so undifferentiated merely because representations had shown that world to be "wholly lacking in the human presence". The living presence of primates in home, zoo, and garden—a Victorian bourgeois vogue of the day (Morris and Morris1966)— would suggest a temporal continuity between primates and humans, and a practically absolute discontinuity with the realm of alien giants, the most alien of all being dinosaurs. The *near-other* ape could become our living animal counterpart/relative, and human animal nature could be accounted for in this near past framing. The *distant-other* or *alien-other* dinosaur was accounted for by the deep past framing which presented a wholly untransgressable chasm between us as civilized and the dinosaur aliens as the utter epitome of nature's witless, horrific, and monstrous savagery. In a mythic, iconic sense dinosaurs could be conflated with failure and bestiality, apes with qualified success as our immediate precursors—shadows of our savage past yet with us today.

So the dinosaurs were scientistically and publicly constructed as an oppositional technology to mark the separation between failed and successful nature. Humanity still stood apart from these struggles in nature, by virtue of civilization. Public lampooning displayed dinosaurs as horrific monsters, wholly unhuman, while ape-human similarities were equally the target of popular press caricature—for example in the famous cartoon of Charles Darwin with a monkey's body. Although the intent of the Darwin caricature may have been to offer a creationist debunking of evolutionist rhetoric, the visual image, which would be produced and reproduced over and over, acts as a transfixing of human-ape affinity or hybrid potential. Quick news media reading of counterposed dinosaur-versus-human and ape-versus-human imagery produces the publicly reified notion of unqualified reptilian anti-human terror and qualified primate kinship and contactability.

Appropriation of the ape/human affine relation, dinosaur/human alien relation would become a common public culture entertainment motif, especially in popular film and literature. Happily, there is a fine source revealing this tropological correlation in its pages, though the author of the work does not point out this pattern, as he was not concerned with such sociological indulgences. Don Glut's *Dinosaur Scrapbook* is just the sort of non-anthropological compilation of popular culture textual, visual, cinematic, and three-dimensional paraphernalia that anthropologist could afford to generate, with added critical perspective, as new emphases on contemporary cultural formations — our own especially — come increasingly into the foreground (cf. Fox, 1991). Glut's book grounds much of the following discussion.

Ape-friends secure a life for Tarzan in Edgar Rice Burrough's novels including—*Tarzan the Terrible*, *Pellucidar*, *At the Earth's Core*—and in several of these the ape man also confronts monsters drawn after dinosaurs (Glut 1980:50). Burroughs's Trilogy *The Land That Time Forgot*, *The People that Time Forgot* , *and Out of Time's Abyss*,[24] designed a world of several populations of primitive humanoids, "a veritable assembly line of evolution" (Glut 1980: 59) living in fear of ferocious saurians. "Civilized Man" is present or implied in all these Burroughs' productions, providing a reassurance to the reader that the people are not truly us—only potentially us in some more brutish past—and that dinosaurs are wholly, unequivocally not us. Woman, as object being, is also present in these worlds, written and drawn by man—invariably white and alluring, a pretended archetype as "Jane", "Fay Wray", "Raquel Welch", to attract and calm the savage hunter—and is presented again and again as a power of nature, like dinosaurs, to be conquered by western Man, the hero slayer of all things fierce and all things vulnerable.

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[24] The third book in this series *Out of Time's Abyss*, shakes up the alien, affine structuring by introducing a transmutation mythology following a progressionist pattern from simple life to increasingly more complex life, curiously non-reproductive, until full human status is achieved along with procreative capacity (Glut 1980:61).

The 1933 film *King Kong* continued this trajectory of ape-dinosaur oppositions, where the great Kong battles extra-primitive giant saurians on his island lost world, populated only by such monsters and a society of monster-appeasing human primitives. The communion of woman and ape, as Fay Wray and Kong, following the theme of 'beauty and the beast' became a major public visualization through this film's popular successes. Pulp literature presentations of human primitives battling dinosaurs and other prehistoric monsters proliferated throughout the 1930s to the 1980s with clear conflations of primitivism and lost world figurations in such comic book characters and titles as *Doc Savage, Jongor of Lost Land, Dian of the Lost Land, Stalkers of the Dawn World, Kioga of the Unknown Land, The Tomb of Time, Sheena Queen of the Jungle , Turok Son of Stone* (Glut 1980). Glut goes on to present well over a hundred examples of mostly American film and literary examples like these, most of which pose primitive muscle-bound white man, or buxom blonde white woman battling dinosaur monsters, often with chimpanzee or ape companions making their way into the frays.

These comic book stories of battles with bestiality are frighteningly true to life, that is true to the truth/fantasy made up and called life. In the colonial and late colonial scientistic/public cultural formations that set the essential, loathsome savagery of feared nature out across a chasm of time, space, geography and difference, it has always been crucial to poise intermediaries between civilized whiteman-as-subject and feared nature as monstrous beast in its lost world. The intermediary caught in the dangerous liminal world of betwixt-between and neither here nor there, is partly like those beings on either side of the great divide—half savage monster, half-pure humanity. Cave men, apes and most significantly cave women, are all dangerous boundary-transgressing beings in this fictional reality of the everyday, of the scientific, of comic-land, of the power-driven colonial imagination.

The shifting, often confused trajectories that multi-layer dinosaurs, modern white man and woman, with primitive ape-man and ape-woman shifts once again in *Jurassic Park*, but with the apes and primitive humanoids left out of the picture. Jurassic Park is a technologized hybrid lost world, not a purified monstrous lost world, and therefore not lost at all, and therefore also, requiring different intermediaries. Nature is invented or re-invented, and she is indeed the great Goddess. Here, nature as woman is subsumed by culture as technology and man. In this illusion of Jurassic Park, the intermediaries between invented nature and instrumental technology are scientists who probe nature's hidden earthbound and chaotic mysteries, while generating the knowledges onto which investment-motivated material technological practices can be grafted—cave people and apes have no place in this comic book. These contingently articulated boundaries, and separated knowledge realms, valourize what is imagined to be pure science, placing it on moral high ground, and places nature-tampering technology in the moral lowlands. To probe is pure and good, to alter is monstrous and bad. Yet turning a good profit by means of theme parks and tourist attractions is actually reified rather than contested by *Jurassic Park*, the film's financial success bolstering this public message. It is the controlling and usurping of Nature that viewers are to watch out for. Technology is made innocent in the service of nature-probing, guilty in the service of nature-manufacturing.

The chimera of science's purity and heroic character is fully reified in *Jurassic Park*. Science is identified with the ideal American way, set forth in slim-bodied, clear complexioned, hard-working white heterosexual bonding in the palaeontologist couple[25], and twisted into an even higher icon of pop Americana with the Elvis-like characterization of chaotician Ian Malcolm.[26] In the end, the beasts of Jurassic Park revert to the 'natural' sexual order, technology loses, and Nature wins the day. The allegory of Nature's complete autonomy, its/her distant mysterious power, and its/her terrible vengeance secures for *Jurassic Park* a place in the continuing trajectories of science/fictions that keep dinosaurs right where man wants them, safely lost in their savage mother world.

Lost World Theming, Musing, Imagineering

The literary-visionary consistency of dinosaurs and other monster giants in lost island worlds has a fairly rich history instantiated significantly by the Crystal Palace Park dinosaur islands (see Chapter Two). Conan Doyle's *Lost World* (1934) remains the practically iconic colonial fiction of travels to the lost and savage world of dinosaur-monster ferocity, with his Professor Challenger challenging his strength of character against fierce nature. This dream of conquest has intricate interfluidity with palaeontological exploration dreams. George Gaylord Simpson, chose the title *Discoverers of the Lost World* (1984) for his writings on the paleogeographically isolated and distinct-looking fossil mammal faunas of South America.

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[25] The male is presented as the *bona fide* dinosaur researcher, the female a palaeobotanist. For Spielberg, Crichton and their audience, dinosaur research retains its coding as a male-privileged domain.

[26] Spielberg's pop culture cleverness would not miss the play of these parallel examples of still-living legends—Elvis lives, Dinosaur lives.

Cryptozoological fascinations transport embodied explorers to hopeful frontier lands where they search for remnants of bizarre past life still alive, or equally monstrous 'unknown' forms of life. The sauropodoid *Mokele-Mbembe* is thought to live in a Mesozoic refugium in the jungles of the People's Republic of the Congo. This was reported by Henry Stanley in his search for David Livingstone, inspiring future cryptozoological investigation and in 1985 the film *Baby, Secret of the Lost Legend* (Jacobs 1993:243-65). The believed to be extinct Moa was sighted repeatedly in New Zealand by settlers in the 19th century shortly after Owen's descriptions of the creature were published. Lake monsters, the most famous being Nessie, appear around the world, otherwise hiding in the murky depths of their lacustrine otherworlds (Meurger 1988). Fabulous new creatures are still being found on "the edge of the bush"[27], recently exampled by finds of a curious fauna of antelope-like monsters (until such a time as they are purified of their monstrosity by scientific naming) in the frontier between Viet Nam and Laos ("Ancient Creatures in a Lost World", *Time* June 20, 1994:46-8). There have been hunts for "Burus", and determined searches for monster inhabited lost lands from Atlantis to Symzonia (cf. Symmes 1965, Izzard 1951).

Lost world narratives involving dinosaurians abound in public culture. The world's best known giant ape battles giant saurians in the movie *King Kong* (1933). In a fanciful gesturing to American-Japanese post-war politics, King Kong meets the Tyrranosaurid-Stegosaurid Godzilla in the Toho film *King Kong vs. Godzilla* (1956). In pulp comic book literature, dinosaurs are encountered in consistently unknown worlds—accessed by time travel, by descent into a subterranean underworld, by becoming lost at sea, or some other removing away from the safety of the home world. These are the outer limits of knowing, and they are the natural habitat of the public literary dinosaur-monster. Wherever we turn dinosaurs occupy such frontier territory—in museums where they are on the frontier of scientific knowledge, of the past, in the popular entertainment media where they are often found on the frontier of known/unknown worlds, and on the frontier of primitive encounters with nature, sex, violence, death.[28]

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[27] I borrow Victor Turner's turn of phrase here (i.e. 1985 monograph title *On the Edge of the Bush*).

Lost World literary imagining in *Jurassic Park* is readable as a curious narratization of Western counter-utopian dreams of feared others inhabiting an equally alien otherworld (cf. Malmgren 1991). Utopias are constructed wonder worlds, while Lost Worlds are constructed horror worlds. Lost world fictions present the illusion of affirming the goodness of civilized life back home, while utopian fictions are, in Marcuse's words "the determinate sociohistorical negation of what exists" (1970).

Lost Worlds are typically worlds out of joint, out of control, savage, remote or isolated, and into which only a few of the bravest, innocent, or foolhardy may venture, with even fewer yet returning to recount their meetings with darkest nature to a wondering incredulous audience and friends in the home world. It is a folktale danger world that heroes may travel into to be transformed and then to come home better than they were before (cf. Propp [1928]; Campbell 1968). In science fiction and fantasy, they are worlds populated with aliens, monsters, giants, savage humanoids, the insane, the evil—all metaphors of the other that we as readers, as self/selves, read we are not. Inaccessibility to Lost Worlds, is achieved through the mechanics of tropic constructions as "deep space", "deep time", "darkest Africa", "remote islands", "mystic caverns", "distant worlds", the

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[28] Glut's book includes large numbers of pulp comic book images, mostly covers, where idealized females as cave girl/girl guide/victim/seductress are entangled in erotic-suggestive encounters with dinosaurs, ape-men, and aliens, while coding presents males as heroic emancipators.

"unearthly, "worlds apart", all implying some temporal, spatial, geographic, or conceptual separation.

All these tropes suggest both a distancing between the world *we* know and the world *we* should hope never to know, but they are also familiar tropes from colonial discourse—they suggest a frontier, a site, a place where we are on the very edge of self-control, exposed to all that is potentially uncontrollable, chaotic, and deadly threatening in the most intensely bodily sense of threat. The tale tells that *we* may go there if we cross the great territories, if *we* gird our loins to the frightening unknown that lays beyond. The postmodern SF (science fiction) theorist Darko Suvin identifies the other world genre of SF as "determined by the hegemonic device of *locus* and/or *dramatis personae* that are…*significantly different from the empirical times, places, and characters* of 'mimetic' or 'naturalistic' fiction." (quoted in Malmgren 1991:7). *Jurassic Park* confuses the distinction-making quality of this device insofar as the fictional *Isla Nublar* is a plausible part of this world, bioengineering of quasi-life has been achieved at the level of microscopic organisms already, and the dinosaur reconstructions in the film attain a level of veracity comparable and possibly exceeding any equivalent projects of 'mimetic' representation (another variety of fiction) in the science-legitimated settings of museum dinosaur presentation. The public belief in, and real-life proximity of possible recovery of dinosaur DNA from amber-encased mosquito bodies was intensified by the concurrent 1993 media reports of related palaeontological, biotechnological investigations (*The Independent*, 25 April 1993).[29]

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[29] The feedback to the palaeontological community from such promising media hype, would be expected to create a surge of institutional interest, especially in museums which increasingly seek mass public exposure media stories for publicity as a means of attracting their paying audiences. Mass appeal, and here the association with the Spielberg film story multiplying the effect, would practically be guaranteed. A similar mass media effect on the generation of scientific debate associated with dinosaurs is presented in Elizabeth Clemens' (1986) article on the conflation of nuclear winter tropes with multi-disciplinary investigations suggesting a catastrophic asteroid impact as the

The narrative of Lost Worlds begins to reveal its necessary politicality as soon as one begins to ask the question "who is this we", the "we" I have strategically emphasized in my re-presentation of this tropo-narrative figuration of Lost Worlds. In *Jurassic Park*, "we" are the "conventional" white middle-class heterosexual All-American scientist family—man, woman, boy, girl—reified with a man at its head. "We" are not anyone outside of that pure family. "We" work in mainland USA on under-funded but exciting palaeontological expeditions—coded as a kind of wondrous pinnacle of life achievement—discovering the most vicious races of dinosaurs—the *Velociraptors*, agile, smart gregarious hunters, in many ways not unlike our savage hominoid forebears of the Pleistocene. "We" use technology wisely and with a good dose of suspicion in our pursuit of pure knowledge—Grant grudgingly employs a real/fictional remote sensing imaging device to reveal skeletal forms beneath the earth at his excavation site.[30] "We" are skeptical of big business, but prone to its power—the scientists accept with joy Hammond's offer to fund two more seasons of field work if they will come to check out his theme park. As film viewers buying tickets to Hollywood movies, each of us who has seen the film, has been no less prone to big business powers over our earnings and our knowledges—in the really

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cause of the terminal Cretaceous mass extinctions, geologically marking the end of the dinosaurs. In this early 1980s scenario, the work of those espousing gradualist hypotheses were overshadowed to the point that funding agencies even began to divert resources increasingly away from the gradualist camps to the much more highly charismatic mediagenic catastrophist camps. Tales of dramatic death as parallels to human extinction win here inversely, as fossil dinosaur DNA offers the frightening hope of regenerating that which should otherwise be absolutely dead and gone—a hidden hope lies in applying this kind of technology to the practice of re-generating human bodies, a project that has highly questionable moral outcomes given consensus response to Nazi bio-population control and the Eugenics of such people as Henry Fairfield Osborne (cf. Haraway 1989:26-58).

[30] Over the last several years, a sauropod (Brontosauroid) dinosaur *Seismosaurus* —and named in accordance with its technologically-assisted revelation—has been excavated not far from Los Alamos New Mexico using a form of seismic remote sensing—no doubt a source for the Jurassic Park scene engineering, again blurring perceived reality/fiction demarcations for the viewing audience.

made-up world of reality we are part of big business, perhaps designated with much more precision in Donna Haraway's concise parody "New World Order, Inc." (1994:59ff).[31]

By this action, the location of the "other" world is set out as the third world, which gradually is losing its otherwise reified third-rate status at the hands of New World Order, Inc. through such appropriations as fossil commodity extraction in the Dominican Republic, and theme park island conversions off Costa Rica, or in real life through NAFTA, the renegotiated GATT, and other global trade reconfigurations. The island siting invents first the contemporary eco-tour destination character of "Jurassic Park"—a manufactured, wishfully-controlled Galapagos experience with decisively more thrilling creatures, in this case quasi-creatures, from man's usurping of Nature's ultimate Darwinian project, evolution—and second, the isolated, bounded space needed to ensure the withholding of Nature in its most vicious manifestation.

Of course, "Jurassic Park" is a theme park, not only a lost world. It is a hybrid world manufactured by the recombining of a pre-existing organic landscape with theme park accouterments, DNA from abominably different creatures to bioengineer monstrosities, and suitable commodity practices from high-priced eco-tourism to broad-scale mass merchandising. Theme Parks are a form of controlled pleasure and fantasy, as Van Mannen points out in relation to Disneyland, "the happiest place on earth" and the world's best known theme park, "The imagination provided at Disneyland is seemingly exhaustive. Little room in theory is left for the spontaneous or the disarrayed" (1992:9). The terrible chaos released in Jurassic Park both reifies and blurs the imagined distinction between two constructed world-types—the culturally and technologically controlled theme park and the naturally disarrayed, berserking lost world. In theme parks, imagination is explicitly given and directed. In lost worlds imagination is implicitly given, by counterposing the fictions of the safely known against fictions of the wildly unknown as something to be feared—the domain of monstrosity.

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[31] The New World Order Inc., in Haraway's vision, is a corporate/state project to manufacture a new world, a utopia, a dreamworld where American capital reigns supreme in mobilizing global labour and earth resources in the service of the project's Master Plan.

So, the figured *Jurassic Park* is a hybrid of theme park and lost world imagineering.[32] To perform what is now a suspect form of tropological visualizing, by adding in the film's gender and technoscience coding, the resulting metaphoric plan becomes *control* (utopian theme park) as technology/man, *chaos* (savage lost world) as nature/woman, and *communion* (domestic nature probing) as pure science/man+woman. Domestic backhome nature-probing heterosexual bliss—is Spielberg's cosiness, his visualization of America's best bet for world salvation when set against the horrible geometric progression of technology and the terrifying random, unpredictable flow of nature. It is a visualization that requires gutsy hypocrisy to produce a film that, all the same, embodies the geometric progression of technology and the conquest of terrifying unpredictable nature. It is a visualization that pays big dividends in both domestic and global markets, in the process showing the subject bodies that make up those markets the sorts of embodied lives to which they should aspire, both key goals in the Master Plan of New World Order, Inc..

Da Capo—The End of the World & the New Millennium

Perceptions of impending environmental and social apocalypse arise from media-situated readings of incessant technological spread, expanding capitalistic exploitation, degradation of land-based resources, continued state oppression, "New World Order" trade repatterning that concentrates power-oriented industrial ownership and high-paid technological labour in wealthy capitalist states and low-paid manual production labour in poorer client states (Wallerstein 1991:Chapter Seven). These fears are allayed by those who see continued capitalist technology-based progress as the path to moral freedom and social improvement (cf. Ausubel 1993). All of these simultaneous and suspect hopes and fears stand in stark contrast against views of small scale indigenous "earth-based" societies which are seen to sustain a perpetual balance between the organic environment, the land, and their cultural economic practices. The ritual engagement between organic world and social subjects in these traditional societies offers a sense of even more profound connection and respecting 'spiritual' order, an intensely personal connection between subjects and their culturally-situated, subjectively-known universes.

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[32] "Imagineering" is the term coined by Walt Disney as the imaginative engineering of Disneyland wonders.

The result in techno-industrial societies is the emergence of counterposing narratives of Life out of Balance, and Life *in* Balance. Pop stars like Sting take up the cause of Amazon rainforest peoples in public campaigns and in their music—with the inherent message that to save the rainforest while recognizing people to be part of it, is to save the last vestiges of true nature affinity—the only secure path to global salvation. Corporations appropriate "Green" rhetoric in their marketing campaigns, or sponsor aboriginal cultural projects. The 1992 Earth Summit in Rio de Janeiro sought a reconciliation of world capitalist development by attempting to co-mix such notions with environmental sustainability, something that representatives of poor states saw as another form of trans-national domination. Along the way, and ever since Watson and Crick unraveled "the secret of life" in the double helix of DNA, biotechnological dreams materially expressed in the proliferation of all manner of genetic research labs offer the hope of ultimate control of life while exposing fearful newly-written powers of destruction in the invisible monsters of

HIV and the more recently publicized bacterial creature responsible for "necrotizing fasciitis," which rapidly "eats away" flesh.

Jurassic Park is both practice and trope for the destructive power of ultimate technology. *Jurassic Park* is nothing but a technology, one that writes and visualizes such relative figurations as science, technology, nature, culture, gender, geopolitics. Dinosaurs are the ultimate mega-invention in the ultimate mega-film on the ultimate mega-theme park created around the ultimate application of monster-making material practices—biotechnology and computer technology. *Jurassic Park* plays on the multiple techniques of illusion mongering so prevalent in capitalist commodity society—in the techniques of the film employing computer hyper-reality, animation, robotics, hydraulic flight simulation devices. In its narrative, the simulated theme park uses all of these techniques as well as the now feared and uncertain techniques of biotechnology in the ultimate defiant act of controlling of a constructed Nature's basic hegemony rooted in Her wild unpredictability, for in *Jurassic Park* , Nature is written as woman, culture as man (cf. Place 1993).

In its gesturing to exploratory pure knowledge practices, palaeontology as a formerly privileged high-science practice is valourized as a nostalgic nature-respecting counterpoint to high technology and simultaneously debased as a contemporary subversion to high-technology domination. Palaeontology and science are threatened with extermination, made redundant at the hands of technology which reverses nature's extermination of dinosaurs. But in *Jurassic Park* , technological control fails, nature liberates all, and pure science is shown to be Nature's best friend, the truth-knowing intermediary between culture and nature.

To invent a nature that should be respected is a widely and highly regarded gesture in trans-national terms, and *Jurassic Park* presents this characterization quite explicitly. To code nature as feminine and savage is a persistent vestige of colonial social order imagining, as is the privileging of science as the true mediator between a written nature and culture. Knowledge production hegemonies in *Jurassic Park* are generated by leaving out all other agents of nature/culture construction and mediation.

One thing is certain in *Jurassic Park* , and that is that nature is ultimately powerful—a construction, but one that seems to be highly regarded in contemporary trans-national social formations and public culture. Spielberg also writes the power of nature as something mysterious, hidden in the earth which if drawn properly from the earth can lead to salvation, if drawn improperly can lead to destruction, a clearly millienialist vision, and not the first time Spielberg has drawn this vision. *Raiders of the Lost Ark* saw a similar struggle between forces of good and evil to draw ultimate power from an earthborne mystical object, in this case the Lost Ark of the Covenant. Archaeologists and palaeontologists are the good diggers in both cases—these two sciences of nostalgia are glorified as the path to earthly power.

But these are only the tales that are told. The equally important action in *Jurassic Park* is the unspoken manipulation and commodification of public fascination in presenting provocative boundary discourses, a somewhat transformed continuation through trajectories of lost world illusionary practices rooting back to such key public/scientific events as the Owen/Hawkins Crystal Palace Park dinosaur-monsters. Dinosaurs as monstrosities remain sites for meaning contestation, for knowledge hybridization, for tropic transformation, for expression of socio-cultural imagining. Their movements between such contested territories as science and public imagining, as imagined nature and imagined culture, leave us dizzied by senses of certainty and uncertainty, thrilled in fact. That so many can engage with such boundary phenomena continues to offer potency. That these monstrous boundary narratives are written to sustain and reify who has privileged roles in the boundary spaces is oppressive. In the end *Jurassic Park* is little more than a figurative throw-back to Crystal Palace Park. In the end, there is no new millennium. In the end all is the same, nothing has been generated just reproduced, the monsters are still stopped dead in their tracks, their promise still waiting to be realized.

Chapter Five / Conclusion

The Sleep of Monsters Produces Reason

Politics, Knowing Subjects, and the Location of Dinosaur Fascination

I have performed an in/significant inversion of Francisco Goya's nearly axiomatic title "The Sleep of Reason Produces Monsters" (cf. Lopez-Rey 1953)—from a drawing he created soon after the time now designated as the Enlightenment, really the Enlightenment of Man. In re-versioning this title I want to suggest, promote, and activate an undoing of that feature of Enlightenment politics which privileges rationalist, pure knowing, a politics that leads inevitably to the artificial and oppressive public scaling of constructions of "who knows" and "who knows best". My contention is that this thing written as 'reason' and all that has been co-mixed with it erases knowledges of such boundary experiences as monstrosity, liminality, nature/culture continuity, the ineffable characters that are contestably of all characters, of all knowing subjects, of all embodied agents. Monstrosity and its attendant fascinations exclude no one.

So here then, is my closing—though never concluding—story of monstrous fascination with and through dinosaurs, and of the politics of knowing in the colonial and post-colonial terrains of monstrosity.

Naming and Taming

> *Thus the magical, confused, various, and haphazard nature of things could be tamed, named, and displayed on a table to constitute a firm base of knowledge. "Snakestones", previously prized for their efficacy against snake bite, would become fossil-types known as 'ammonites', and 'devils' toe-nails' would be reclassified as 'gryphites'.*
>
> Hooper-Greenhill (1993:138) on modernist classification, after Skeat 1912 "Snakestones and stone thunder bolts as subjects for systematic investigation", *Folklore*, 23, pp 45-80.

Monsters live on the edges of the named and the unnamed. There is an ineffable ground of the unknown that constitutes an unnamed material/non-material or visible/invisible world, or not world—it is non-cultural, non-linguistic. On the surface of that, we could call this 'nature', in the sense that it is not 'culture' nor signifying. It would be the ground of being—therefore it has ontological status, being, reality. But does it in actuality? Not at all. It is another realm of the ineffable, the unspeakable, it is potent but utterly undescribable. Indeed all of these words do absolutely nothing to convey what it is or is not. It is also not a "realm" at all, because that is a description, as is "ground of being", which it also is not. As soon as we do something to try and describe it (as though it were an object of apprehension) we realize (make real) its necessary undoing. So where is 'nature' in all of this? It is a subset of the cultural, of the textual. Nature is a thing described, named, spoken, uttered, narrated, pictured, categorized, learned, received, invented. Nature is not born, it is made.

Does naming naturalize or enculturate things? In the modern sense, as Foucault has pointed out, the nominating of things is naturalizing (1970:133). In Evelyn Keller's sense however, nature is that which precedes language, precedes nomination (1992a:3-4). In biochemistry creating a 'culture' involves 'denaturing' of something—that is removing all 'natural' variables and complexities (cf. Hayles 1990:279-295). These confusions are a strong argument for adopting the vision of nature/culture, as Latour has done and as I do here, since it permits agency of the reader of things in choosing naturalizing, socializing, nature/culture, textualizing, oralizing, or any other possible ways of knowing.

But I have to add one more point. If the ineffable is ineffable, how is it that it has the nominal category 'ineffable'? It does not. The ineffable does not exist in language, as signaled in Wittgenstein's proposition (1971:115)—"the limits of my language *means* the limits of my world". Ineffability is an elusive wish or dream. Only its elusiveness is apprehendable, and it is such names as 'ineffable'—and such engagements as poetics, music, love—that attempt that apprehension. The elusive ineffable is captured in a Blackfoot tale, actually in a personal name that is also a story. The name is speakable, but its character is only suggestible—the name translated clumsily into English is more or less, "what we know and feel between the strike of lightning and the clap of thunder". We may dream something that comes close to, but never ever arrives at ineffability. That dream locates and marks the boundary of the described, the nominal, and the never-described, the never-nominated—let me call it the boundary of the known and the unknown. That is a cultural, linguistic invention, something I can still write about.

As monsters, dinosaurs occupy the shadow lands of the known and the unknown. And monsters have to do with fascination and awe, wonder and horror, which people have and know and experience and desire[1]. It is a deadly serious matter, because it keeps us alert, interested, on the edge of our seats, inspiring us to keep going as living knowing subjects walking in an apparent life of visible/utterable and invisible/unutterable experience.

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[1] Boundary experience is not just an intellectual notion for me—it is manifest in storms, twilight, encounters with animals, and all other manner of penumbral occurrence which actually or seem to create 'magical' happenings.

Victor Turner's writing on "thesholdness" and "liminality" figures well with these meanderings in fascination, where ritualists in his descriptions stand "betwixt and between" where social identities are shed, where communion with the ineffable occurs, where communion with others is set into motion generating by erasure a non-social sense of "communitas", that is in his terms "anti-structure" (1969, 1974). Sustained involvement in such terrain evaporates self-other awareness, and as Taussig writes of mimesis, actualizes "the compulsion to become the other" (1993:xviii).

Locating Fascination

> *"Fascinate"*
> *To cast a spell over (a person, animal, etc.) by a look; said esp. of serpents.*
>
> On-line OED, July 1994

Most of the latter half of the film *Jurassic Park* is dominated by scenes of bodies attempting to elude invented carnivorous dinosaurs—*Velociraptor*, *Tyrannosaurus*, and *Dilophosaurus*. At one point, the park's game warden, visually played out as the 'great white hunter', is effectively ambushed by two *Velociraptors* hunting in tandem. He exclaims "clever girl" as the hidden predator of the pair reveals herself and leaps upon him, bringing an end to his character. The next image is of a snake in the trees, yet another overpowering, 'fascinating' carnivore—no doubt a calculated image in a $60 million film . The treacherous computer technologist is lost in a storm, and encounters the cobra-maned *Dilophosaurus*, which spits acidic venom to blind and apprehend its human prey. These dinosaurs are all hybrids of the serpent—with fixed curling sinister grin, piercing cat-like eye, squamate skin, supra-ocular crests (cf. Mundkur 1983: 26-31). To add to the confusion, as bipedal beings with grasping 'hands', and in the case of Velociraptor implied big-brained intelligence, these dinosaurs are also humanoid. And phylogeny stories also tell that the carnivorous dinosaurians are those that are most related to birds (Currie and Sovak 1991; Currie 1987; Hecht et al. 1985), a recurrent motif in *Jurassic Park*. These film, palaeontology, museum, and public culture star monstrosities are readable as Ophidio/Hominoid/Avians.

The reptilian-ophidian visage is a familiar one coded visually as well in the Owen-Hawkins *Megalosaurus* and *Iguanodon*. It is the visage of dragons and serpents known widely (Meurger 1988). Mundkur (1983, 1988) narrates his sociobiological story of ophidiophobia, drawing together texts from hundreds of scholarly-written cultural traditions, and primate behavior studies constructing near-universal ubiquitous, continuous phylogenetic encoding of serpent awe. If there is a genetically coded fascination with serpents, a genetic memory of ophidiophobia—and his primate data is his only case for this (curious how the near-other proves the potency of the distant-other)—then culture is simply an inhibitor/amplifier of the genetic expression. However, if fascination with serpents is cultural, then natural genetic coding of this phobia is simply a contingent historical invention to solve some urge for explanation (Berger 1990, Scruton 1986). Both work. Neither proves anything. Together they offer counterposing narrative streams that equally flow into the matter of awe, enchantment, and fascination. They both inscribe a contact whether between what are written as 'nature' and 'culture' in Mundkur's case, or between what I have written as 'nature/culture' and 'the ineffable'. Dinoserpentosaurians are boundary creatures, mystery beings, in both texts/constructions, defying explanation, always changing their skins for each knowing subject. Located, as they are on the slippery edges of knowing and unknowing, on the shifting edges of possibility, they articulate memories of the suggestions of the possibilities of intimations of the ineffable. And so they excite.

Dislocating Fascination

Excitement is seen as dangerous—it is an expression of the personal power to engage, and as something that offers self-possessed agents with their own sense of power which is seen a threat to those with other-than-personal power—that is those with impersonal socially-constructed power. Yet impersonal and personal power co-exist in the continuum of nature/culture. Throughout this thesis I have selectively entexted my understandings on the pervasiveness of this continuum of personal engagement and impersonal diversion visualizable in the contrasting productions of the Crystal Palace and Jurassic Park dinosaurographies, folding in allusions to other fiction/reality events in the predominantly Anglo-American 'traditions' in dinosaurographical imagining.

By visualizing the social embeddedness of dinosaurographies in public/scientistic histories, such matters as commodification, illusionary practices, power-related purification discourses have been highlighted as forceful technologies that divert and dislocate subject by subject fascination. Power over the deployment of monsters has been effectively dominated by capitalist, techno-science momentum, and the privileged agents in those terrains. Pure scientists remain the central proponents and writers of dinosaur de/monster/ations. And those pure scientists are bound in a closely policed spiral that further privileges embodied white male dinosaurographers. Public engagements in monstrous boundary experience is marshaled away from the public as a plurality of knowing subjects. Just as dinosaurs are written/visualized into a collection of pure beings, in direct denial of their inherent hybrid character, so is public agency subverted away from monstrous fascination and imagining, all effectively sustaining the power order of situated intellectual elites whose members believe in their impersonal rightness. A privileged few use monstrous fascination to draw the economic and psychic resources of public involvement, thereby fueling their expert or privileged status, offering quick distractions through alternate fascination events, and thereby keeping public knowing squarely in place.

I've drawn a quick sketch (Contingent figure XXX)[2], as a possible mechanism for visualizing the location of monstrosity which corresponds to the location of fascination, wonder and horror. The sketch is meant to imply several mutually continuous continua that have become apparent in post-modern and post-cartesian discourses, and intimating many of the discussions I've already presented. It is a pseudo-map of modern/post-modern epistemic conditions and power relations, focalizing on monstrification and the locatability of related fascinations.

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[2] The triple 'X' is a sign of danger which I use in joking seriousness. Diagrams, models, charts, graphs, and paradigms, like cartoons, corporate logos, and sound bites can have the pretentious and preemptive effect of suggesting truth. Of course, true life looks nothing like the sketch I offer—only my sketch looks like this. It is little more than a clever instrument of my semiotic technology to contingently purify what I have been trying to point to in otherwise monstrous literate ways throughout these texts.

[ ]	[ineffably uncoded]	[other-than-things]			[other-than-knowing]	
	Wonder/Horror/Fascination					
Nature/Culture	Subjectifying (Between coded and uncoded)	Monstrification What Dinosaurs are	Value/Meaning Loose Experience	Oralization	Knowing between the lightning and thunder	Personal Politics
	Objectifying (Coded)	Purification What scientists think Dinosaurs are	Value/Meaning Tight/Fixed Experience (Commodification)	Textualization	Knowing of Lightning and/or Thunder	Impersonal Politics

— Contingent Figure XXX —

The first continuum is that from the ineffable (uncoded) to the subjective (between uncoded and coded) to the objective (coded). The contact between subject-subjectivity and the ineffable is the zone of fascination, and it is here in this exceptionally creative space that monsters emerge. Moving from the subjective to the objective is an act of de/monster/ation, of purification. Commodification and progressive pure-being nomination dislocate subjects from monstrous engagement. They also limit the personal power that is characteristic of subjectivity and ineffable boundary experience. It is a movement from personal to impersonal power.

I have also included a continuum from orality to literacy, a motion which has been discussed variously by Stephen Tyler (1991), Walter Ong (1988), and Jack Goody (1987). Epistemic engagements for non-literate, oral, peoples has been written by all these authors to have a greater character of contingency and of personal/subject involvement compared with literate peoples where coding and nomination atomize the world with relative meaning fixity. Imaginative, creative play is limited through modern pure-knowledge textuality[3]. The multilayered actions of commodification, purification, textual narration work together to distance subjects from embodied experience, to disembody and depersonalize knowing, to limit, redirect, and replace excitement and fascination. It is an elaborate historically contingent game that keeps privileged impersonal power in place by ensuring marginal personal power in fascinated engagement is consistently dislocated.

To use Mary Douglas's (1966, esp. Chapters Seven and Eight) free-valence visioning of body-boundary/society-boundary metaphoric imagining, the boundaries of nature/culture with ineffability is akin to her "external boundarieswhere purity and impurity are in contact. Her "internal lines" then are akin to the negotiations that take place in the socially constructed terrains of nature/culture, the nominated, partly shared territories of meanings and social relations, the boundaries between each of the nominally purified forms of social creation. Though subject contacts at both these imagined boundaries are potent, the former privileges subject agency and personal/political fascinated engagement, permitting the possibility of radical creative invention, while the second privileges and reifies the existing order of things, permitting only limited subject-agent actioning.

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[3] Tyler, however, argues that something of the contingent, fascination-engaging effects of orality can be had through post-modern writing strategies, which operate on such principles as contingency, irony, contestability, and any other writing practices that destabilize hegemonic truth effects in received writing strategies.

Subversive Monsters and their Place in Generative Politics

> *The danger which is risked by boundary transgression is power. Those vulnerable margins and those attacking forces which threaten to destroy good order represent the powers inhering in the cosmos. Ritual which can harness these for good is harnessing power indeed.*
>
> Mary Douglas, Purity and Danger, 1966:161.

Let me finish and restart with some querying about dinosaurs, the same querying that refracts a funny little ritualized story to be reiterated again and again in the ongoing trajectories of dinosaurographical imagining. That is, that surely these dinosaur beings can't be gone, they must be with us still somewhere, somehow. The question is their location, and in the search so many possible sites have been identified as the probable hideout of the still-living dinosaurs. Does she live in Loch Ness? (Nessie is ever female, though science knows she is not truthfully a dinosaur, rather a plesiosaur). Perhaps there are hidden corners of wild, unexplored nature, where dinosaurs reside. Perhaps, they lie dormant in molecular helixes in the blood-swollen abdomens of mosquitoes. Perhaps they will appear again in altered similarity elsewhere in the organic universe. Perhaps they have been destroyed entirely only to reappear imaginatively as skeletons and simulations in museums, books, and films. Perhaps they are transformed into serpents still with us crawling upon and within the earth, or into birds flying above. Perhaps time is an illusion and we travel back to their lost world to be yet with them in the past now. Perhaps they are robot-beings. Perhaps they are half-revealed, half-obscured as partial fossil bits on some scorched badland landscape. The consistency is that dinosaurs are neither and both here and there, neither and both known and unknown, neither and both us and not us, neither and both nature and culture. They have and will always be thus, simple little big monsters.

These essays are once and for all, not about de/monster/ation of dinosaurs, but rather about their full-blooded monster/ation. Through all these texts, I have attempted to describe some of the spaces of boundary experience in the form of public fascination with dinosaurs as monsters, as lost world beings, as beings betwixt and between, which are prone in their situated techno-science capitalist embeddedness to commodification, control, appropriation to discourses of privileged knowledge purification. Using the figurative framing of the situated dinosaurographic narratives in Crystal Palace Park and *Jurassic Park*, I have discussed the socio-historical consistencies in reified literary and mimetic materializations of dinosaurographies in theme park / museum situations, in rhetorical practices of pure knowledge legitimation, in the embeddedness of colonial self-other discourses, in the elision of women, racially and ethnically marked others, and even of the working populace.

At the same time, I have made many returns to the very point of fascinated engagement with monstrosities, boundary discourses, and trickster visioning. There are some interesting discourses related to language, meaning, and ineffability that I believe help in refiguring, resituating monstrosity such that monsters may be hybridized in an effectively post-colonial manner to increasingly bring about non-racist, non-sexist, subject engagement and agency, and to contribute to subversion of heretofore reified oppressive power structures. The point is to make boundary experience and practice of all knowing subjects count more, and that of those who have consistently appropriated boundary experience and practice to their own ideologies, to count less—that is, to suggest a generative politics of subject empowerment and hegemonic epistemic power-centre subversion.

As highly-supported and privileged contemporary discussants of this contemporary thing called culture or nature or nature/culture, standing embodied as each of us does in the midst of communities of knowing subjects, standing embodied as each of us does on a fluid fulcrum between what has gone before and what will come next, we have a responsibility to see that those discussions are somehow carried beyond the close confines of academic discourse, and if possible, to see that those discussions generate an effect that is somehow helpful to knowing subjects especially those that find themselves so constantly and painfully left on the margins of discourse that counts (cf. Kirby 1993). For every critique of socio-cultural formations, and much of this current work is indeed critique, there should be a celebration and a hopeful generative transformation. Totalizing critique, something espoused by Michel Foucault, while highly challenging and destabilizing to reified systems of knowing and oppression, leaves out generative possibilities in an immediate sense, something that feminist critics of post-modern anti-hegemonic discourse have continually pointed out (cf. Grosz 1993, Mascia-Lees et al. 1989) and attempted to augment and counteract with specific actions required by embodied positionality that still marks the majority of women and their discourses on the political margins.

While my own embodied perspective—as white, male, academia-situated, G-7-state located commentor—is one that marks me in discursive communities of reified power centrality, I aim simply to indicate what I see as discursive spaces in these political boundary discussions that can be accessed by those who are already quite vocal, but who have not been listened to as a consequence of political exclusion that responds to embodied, socio-culturally imagined, nature/culture markings of race, gender, ethnicity, language, and class.

Indeed, a review of post-colonial feminist activism and discourse reveals the deployment of a number of increasingly articulated and cited power-subverting tropes: embodiment, agency, hybrid knowledges, continuity, boundary experience, epistemic plurality, polyvocality, privileged partial perspective, "starting" from marginal lives—agency lives with such tropologies. Whereas Marxist activism set up the struggle between oppressed and powerful classes, these new activisms effect erasure or subversion of the powerful, striking write/right at the heart of their most powerful technology—language, discourse, communication, rhetoric, visualization. If, again as Wittgenstein pointed out, "the limits of my language, means the limits of my world", then it should be possible to change the language limits, which will mean the changing of the limits of our worlds. Boundaries with the ineffable will always remain, and will always shift. If language as category formation, and rhetoric as power instrument, are so important to our imagining, then language and communication can become the site for subversion of oppression.

In a world that is so contingent, that bombards us with high-intensity meaning displacements through commodified communication, I prefer to open all possibilities of participation, especially those that create the opportunity for all-subject sustained engagement. Participation, monstrosity, embodied continuity with and of the world, are good to think, good to act, and good to live. If the oppressive discourse of dinosaurs as monsters—rather than its oppressive scientistic pure-being counterpart—has any hope at all, it is in the anti-racial, anti-sexist, anti-class potency of their transformative, trickster character. As a site for fascinated participation, there is hope in dinosaur's monstrosity, for a polyphony of alternate subject narrations, generative discursive projects, and the dissolution of insidious imagined boundaries preventing access to power for all embodied, knowing subjects. It is not the extinction of dinosaurs that is called for now, it is rather the extinction of Man, the extinction of practices of discursive exclusion, the extinction, gradual and catastrophic, of culturally and politically oppressive purifying and essentializing. Ironically, it is the fullest recognition of the inherent monstrosity of our natural/cultural status as subjects, as participants in shifting social formations, as participants in a constructed nature formation, that ushers in these hopeful Hopi days of purification. Purity is not in our hands, only monstrosity.

The uncertainty, the free-valence of dinosaurs in contexts of their counteracting reality validation by science presents avenues for self-reflective freedom of thought—dinosaurs are exactly tricksters, and tricksters are perfectly inexact. Every possible domain noted in these essays along with their constantly re-negotiated boundaries are ways in to fascination. And such tricksters or boundary beasts are prone to multi-layered social and cultural elaboration—myths may be written, institutional budgets may be reordered, magazines cover stories may be warranted, tours may be organized. Dinosaurs are imprecise maps of each of us, of our social relations, of our economic beliefs, of our fears and joys.

Though they have been principally a male written domain, many graduate students studying dinosaurs today (i.e. 1994) are women, and such alternate embodied perspectives may cause a crucial shift in the years ahead. Like all proper monsters, dinosaurs will transform themselves by our multiple agencies again, and again. How will the coding of dinosaurs shift when those who move through and engage generative discourses in the sociogeographic space in which dinosaurs move are not just predominantly white, anglo, middle class, males.

Dinosaurs will persist, or they will be replaced by other monsters, anomalous beings that may enchant us in an altered society that validates other things. We remain in what has been called "Late Capitalism", and it is hard to know how long the sunset of the system will last, though surely it will fade. Dinosaur tricksters have thrived especially in the grips of capitalist commodification from Crystal Palace to Jurassic Park, from the American Museum of Natural History to the National Museum in Buenos Aires or the Institute of Vertebrate Palaeontology and Palaeoanthropology in Beijing. This wholly bourgeois boundary beast will suffer only if the fertile ground from which it was drawn—colonial conquest mentality—is leached of the appropriated nutrients of labour and world resources.

Who is this now androgynous Ophidio/Hominoid/Avian? How will s/he be narrated in days to come? If dinosaur is truly the trickster s/he pretends to be, the possible crazy/smart of each of our imaginations, the transformations will never cease—we may not even recognize dinosaur tomorrow, just as we may not recognize the post-capitalist system in which dinosaur would live in new embodiments, in new skins. We should get to know these tricksters better. S/he is after all a tricky beast, an attractive magician, this monster. Not surprising—s/he has been and will be more or less us.

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